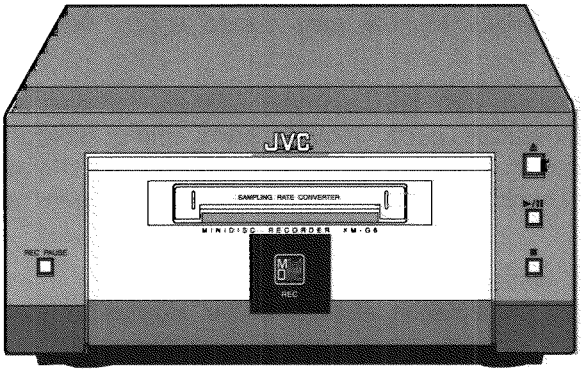
XM-G6

JVC

SERVICE MANUAL

MINIDISC RECORDER

XM-G6



Area Suffix	
U	Other Areas
UB	Hong Kong
J	U.S.A./ Canada

We will separately issue the parts list of J version.

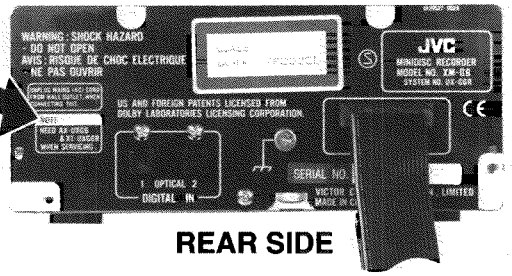
< ATTENTION >

When this model is repaired, a part of unit of "UX-G6" is necessary.
A necessary unit is described to rear panel.
Please keep the unit from the customer together when you repair this model.

Unit necessary for repair

AX-UXG6
XT-UXG6

NOTE:
NEED AX-UXG6 & XT-UXG6 WHEN SERVICING



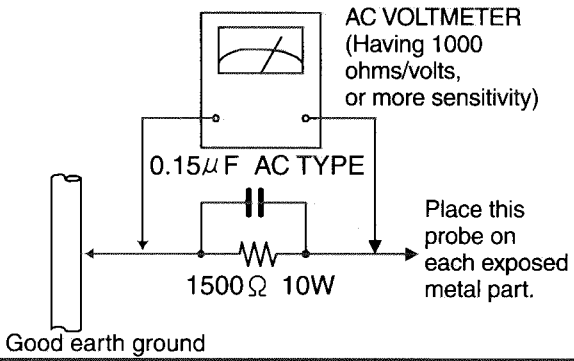
REAR SIDE

Contents

No.20809
Feb. 2000

Safety Precautions

1. This design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer`s warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (⚠) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage currnet check (Electrical shock hazard testing)
   After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
   Do not use a line isolation transformer during this check.
   - Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet , particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.)
   - Alternate check method
     Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500Ω 10W resistor paralleled by a 0.15μF AC-type capacitor between an exposed metal part and a known good earth ground.
     Measure the AC voltage across the resistor with the AC voltmeter.
     Move the resistor connection to eachexposed metal part, particularly any exposed metal part having a return path to the chassis, and meausre the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. voltage measured Any must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).



Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

⚠ ***CAUTION*** **Burrs formed during molding may be left over on some parts of the chassis. Therefore, pay attention to such burrs in the case of preforming repair of this system.**

Important for laser products

1.CLASS 1 LASER PRODUCT

2.DANGER : Invisible laser radiation when open and inter lock failed or defeated. Avoid direct exposure to beam.

3.CAUTION : There are no serviceable parts inside the Laser Unit. Do not disassemble the Laser Unit. Replace the complete Laser Unit if it malfunctions.

4.CAUTION : The compact disc player uses invisible laserradiation and is equipped with safety switches whichprevent emission of radiation when the drawer is open and the safety interlocks have failed or are de feated. It is dangerous to defeat the safety switches.

5.CAUTION : If safety switches malfunction, the laser is able to function.

6.CAUTION : Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

⚠ ***CAUTION*** **Please use enough caution not to see the beam directly or touch it in case of an adjustment or operation check.**

VARNING : Osynlig laserstrålning är denna del är öppnad och spårren är urkopplad. Betrakta ej strålen.

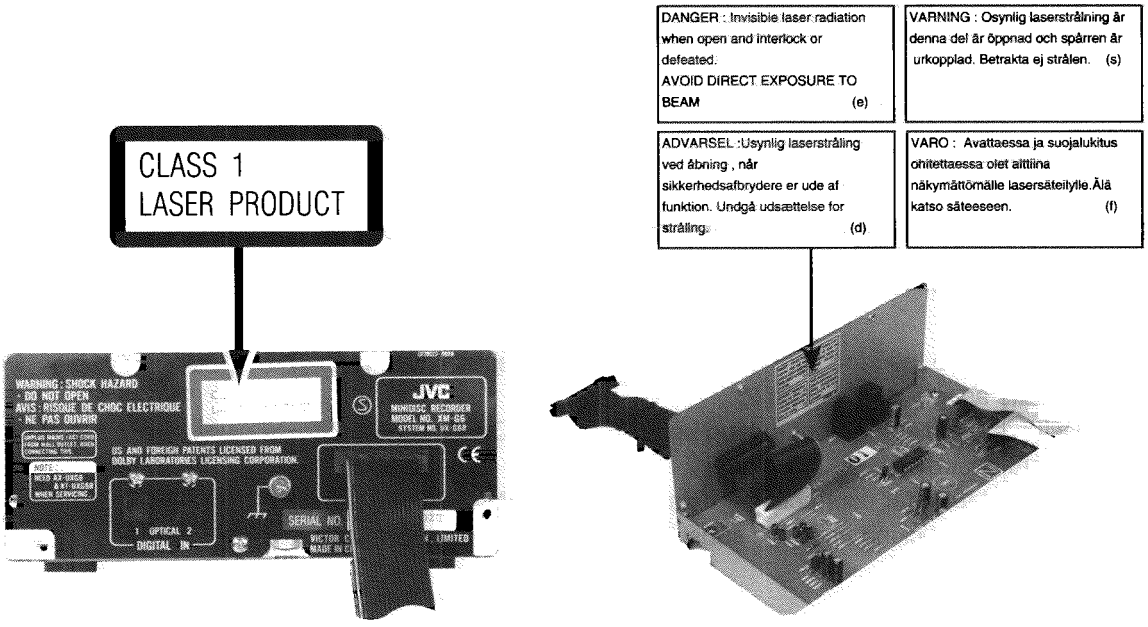
VARO : Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle.Älä katso säteeseen.

ADVARSEL : Usynlig laserstråling ved åbning , når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

ADVARSEL : Usynlig laserstråling ved åpning,når sikkerhetsbryteren er avslott. unngå utsettelse for stråling.

REPRODUCTION AND POSITION OF LABELS

WARNING LABEL



Preventing static electricity

1.Grounding to prevent damage by static electricity

Electrostatic discharge (ESD), which occurs when static electricity stored in the body, fabric, etc. is discharged, can destroy the laser diode in the traverse unit (optical pickup). Take care to prevent this when performing repairs.

2.About the earth processing for the destruction prevention by static electricity

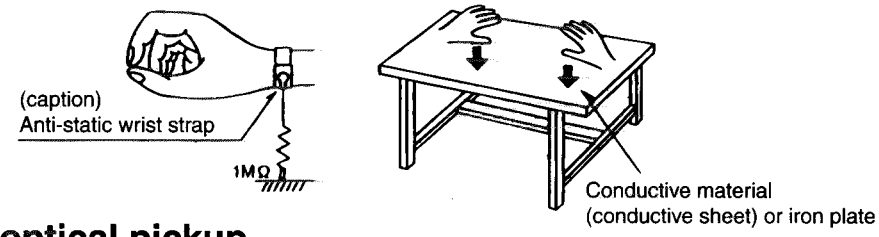
Static electricity in the work area can destroy the optical pickup (laser diode) in devices such as DVD players. Be careful to use proper grounding in the area where repairs are being performed.

2-1 Ground the workbench

Ground the workbench by laying conductive material (such as a conductive sheet) or an iron plate over it before placing the traverse unit (optical pickup) on it.

2-2 Ground yourself

Use an anti-static wrist strap to release any static electricity built up in your body.



3. Handling the optical pickup

1. In order to maintain quality during transport and before installation, both sides of the laser diode on the replacement optical pickup are shorted. After replacement, return the shorted parts to their original condition. (Refer to the text.)

2. Do not use a tester to check the condition of the laser diode in the optical pickup. The tester's internal power source can easily destroy the laser diode.

4.Handling the traverse unit (optical pickup)

1. Do not subject the traverse unit (optical pickup) to strong shocks, as it is a sensitive, complex unit.

2. Cut off the shorted part of the flexible cable using nippers, etc. after replacing the optical pickup. For specific details, refer to the replacement procedure in the text. Remove the anti-static pin when replacing the traverse unit. Be careful not to take too long a time when attaching it to the connector.

3. Handle the flexible cable carefully as it may break when subjected to strong force.

4. It is not possible to adjust the semi-fixed resistor that adjusts the laser power. Do not turn it

Attention when traverse unit is decomposed

***Please refer to "Disassembly method" in the text for pick-up and how to detach the substrate.**

1.Solder is put up before the card wire is removed from connector CN1 on the MD substrate as shown in Figure 2.
(When the wire is removed without putting up solder, the MD pick-up assembly might destroy.)

2.Please remove solder after connecting the card wire with CN521 and CN1 when you install picking up in the substrate.

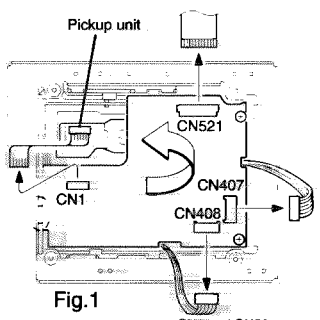


Fig.1

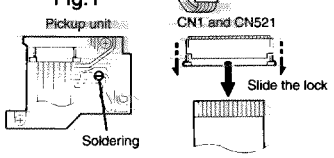


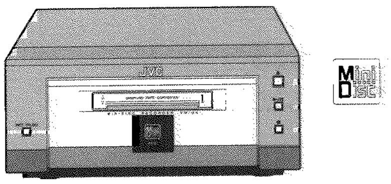
Fig.2 Fig.3

Instructions

JVC

MINIDISC RECORDER
GRABADORA DE MINIDISC
微型磁碟录音机

XM-G6



INSTRUCTIONS
MANUAL DE INSTRUCCIONES
使用说明书

For Customer Use:
Enter below the Model No. and Serial No. which are located either on the rear, bottom or side of the cabinet. Retain this information for future reference.

Model No.

Serial No.

LVT0378-006A
[U, UB, US]

JVC
VICTOR COMPANY OF JAPAN, LIMITED

EN, SP, CH

0100JTMMDWJSC

Warnings, Cautions and Others
Avisos, precauciones y otras notas
警告，注意及其他须知事项

CAUTION
To reduce the risk of electrical shocks, fire, etc.:
1. Do not remove screws, covers or cabinet.
2. Do not expose this appliance to rain or moisture.

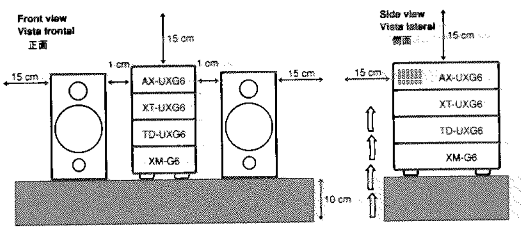
PRECAUCIÓN
Para reducir riesgos de choques eléctricos, incendio, etc.:
1. No extraiga los tornillos, los cubiertas ni la caja.
2. No exponga este aparato a la lluvia o a la humedad.

警告
为了减低触电，火灾等危险：
1. 请勿擅自卸下螺丝钉，盖子或机壳。
2. 请勿让本机受雨淋或置潮湿环境中。

Caution: Proper Ventilation
To avoid risk of electric shock and fire, and to prevent damage, locate the apparatus as follows:
1 Front:
No obstructions and open spacing.
2 Sides/ Top/ Back:
No obstructions should be placed in the areas shown by the dimensions below.
3 Bottom:
Place on the level surface. Maintain an adequate air path for ventilation by placing on a stand with a height of 10 cm or more.

Precaucion: ventilación correcta
Para evitar el riesgo de descargas eléctricas e incendio y prevenir posibles daños, instale el equipo en un lugar que cumpla los siguientes requisitos:
1 Parte frontal:
Sin obstrucciones, espacio abierto.
2 Lados/parte superior/parte posterior:
No debe haber ninguna obstrucción en las áreas mostradas por las dimensiones de la siguiente figura.
3 Parte inferior:
Sitúe el equipo sobre una superficie nivelada. Mantenga un espacio adecuado para permitir el paso del aire y una correcta ventilación, situando el equipo sobre un soporte de 10 o más cm de altura.

注意：正确通风
为免发生触电和火警的危险，及防止本机受损，请将本机如下放置
1. 前面： 没有障碍物及地方开阔。
2. 侧面／顶面／背面： 在图中所示范围中，不应放置任何障碍物。
3. 底部： 放置在水平面上，放置在一个高 10 厘米或以上的台上，以保持足够的通风道。



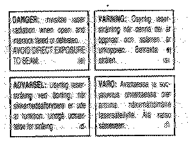
IMPORTANT FOR LASER PRODUCTS
IMPORTANTE PARA LOS PRODUCTOS LÁSER
雷射产品的重要说明

REPRODUCTION OF LABELS
REPRODUCCIÓN DE ETIQUETAS
标签内容说明

1 CLASSIFICATION LABEL, PLACED ON REAR ENCLOSURE
1 ETIQUETA DE CLASIFICACIÓN, PEGADA EN LA PARTE POSTERIOR DE LA CAJA
1 分类标签，贴在机壳背后

2 WARNING LABEL, PLACED INSIDE THE UNIT
2 ETIQUETA DE ADVERTENCIA, PEGADA EN EL INTERIOR DE LA UNIDAD
2 警告标签，贴于机内

CLASS 1
LASER PRODUCT



1. CLASS 1 LASER PRODUCT
2. **DANGER:** Invisible laser radiation when open and interlock failed or defeated. Avoid direct exposure to beam.
3. **CAUTION:** Do not open the top cover. There are no user serviceable parts inside the Unit; leave all servicing to qualified service personnel.

1. PRODUCTO LÁSER CLASE 1
2. **PELIGRO:** En el interior hay radiación láser invisible. Evite el contacto directo con el haz.
3. **PRECAUCIÓN:** No abra la tapa superior. En el interior de la unidad no existen piezas reparables por el usuario; deje todo servicio técnico en manos de personal calificado.

1. 一级雷射产品
2. **危险**：当内部锁定装置失效或者损坏后，打开盖板可能会产生不可见的雷射辐射，应避免受到光束直接照射。
3. **注意**：请勿打开顶盖板，本机内部没有用户可自行维修的部件；所有维修工作应由有资格的人员完成。

English

Introduction

We would like to thank you for purchasing one of our JVC products. Before operating this unit, read this manual carefully and thoroughly to obtain the best possible performance from your unit, and retain this manual for future reference.

Welcome to XM-G6

XM-G6 is MiniDisc Recorder exclusively designed for UX-G6 micro component system. Although you cannot operate this MD recorder without UX-G6, this integration offers enhanced features to simple and easy operations systematized on UX-G6.
Since the basic settings and common operations are almost identical to those of UX-G6, this manual mainly explains MD related operations. Concerning UX-G6's settings and operations, refer to its Instructions for details.

- The following marks are used in this manual:

Gives you warnings and cautions to prevent from a damage or risk of fire/electric shock. Also gives you information which is not good for obtaining the best possible performance from the unit.

Gives you information and hints you had better know.

Precautions

Installation

- Install on a place which is level, dry and neither too hot nor too cold — between 5°C and 35°C.
- Install the unit in a location with adequate ventilation to prevent internal heat built-up in the units.
- Leave sufficient distance between the unit and a TV.

DO NOT install the units in a location near heat sources, or in a place subject to direct sunlight, excessive dust or vibration.

Power sources

- The power source of this unit is controlled by UX-G6's system operation. Refer to its Instructions.
- When connecting the unit to the UX-G6, make sure to unplug the AC power cord of the UX-G6 from the wall outlet.

Moisture condensation

Moisture may condense inside the unit in the following cases:

- After starting heating in the room
- In a damp room
- If the unit is brought directly from a cold to a warm place

Should this occur, the system may malfunction. In this case, leave the unit turned on for a few hours until the moisture evaporates, unplug the AC power cord, and then plug it in again.

DO NOT disassemble the unit since there are no user serviceable parts inside.

If anything goes wrong, unplug the AC power cord and consult your dealer.

Contents

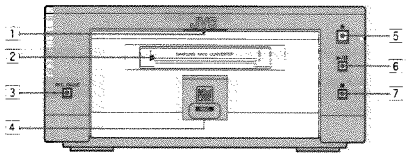
English

English

Location of the Buttons and Controls

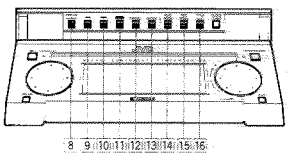
Become familiar with the buttons and controls on the unit.

XM-G6 **MiniDisc Recorder**



AX-UXG6 **Stereo Amplifier (belongs to UX-G6)**

Buttons behind the Sliding Panel (When pressing OPEN/CLOSE button (4))



English

Front Panels

MiniDisc Recorder XM-G6

1. MD IN lamp (7)
2. MD loading slot (7)
3. REC/PAUSE button (12)
4. REC indicator (12)
5. ⏏ (eject) button (8)
6. ▶/II (play/pause) button (8)
7. ■ (stop) button (8)

Stereo Amplifier AX-UXG6

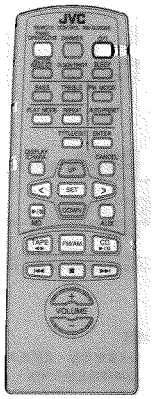
1. ⏻/I button and STANDBY/ON lamp
2. MULTI JOG dial
3. FM/AM button (12)
4. OPEN/CLOSE button (7)
5. Display window
6. VOLUME dial
7. AUX button (17)

Buttons behind the Sliding Panel

8. DISPLAY/CHARA. button (13, 25)
9. ⏮◀◀ button (8, 9, 25)
10. ▶▶⏭ button (8, 9, 25)
11. SET button (9, 13, 20, 25)
12. CANCEL button (9, 21, 25)
13. ENTER button (21, 25)
14. PLAY MODE button (9)
15. REC MODE button (13)
16. TITLE/EDIT button (20, 24)

Remote Control (belongs to UX-G6)

* MD related operations are mainly assigned to the hollow buttons as illustrated below.



- You can also use the buttons on the remote control if they have the same or similar names (or marks) as those on the units.
  If operation using the remote control is different from that using each unit, it is then explained.

Concerning with the remote control
Refer to the Instructions supplied with UX-G6.

English

Getting Started

Unpacking

After unpacking, check to be sure that you have the following items.

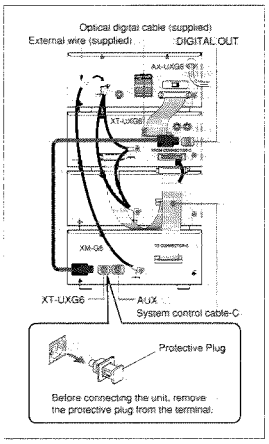
- Optical digital cable (1)
- External wire (1)

The number in the parentheses indicates the quantity of the pieces supplied. If any is missing, consult your dealer immediately.

Connecting the System Control Cable and the External Wire

Since XM-G6 Mini Disc Recorder is exclusively designed for UX-G6 micro component system, you can easily connect this unit using the system control cable and connector equipped on the rear panel of each unit as illustrated.

- To prevent malfunction, connect the external wire as illustrated.



When connecting the XM-G6 MD recorder
Make sure to turn off UX-G6 and unplug the AC power cord. Leave it until all the connections complete.

DO NOT place XM-G6 unit or any other equipment onto AX-UXG6 stereo amplifier unit.
Damage or malfunction may result from heat generating portion of AX-UXG6.

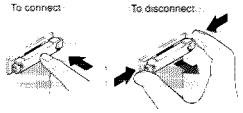
1 Turn off UX-G6 system and unplug the AC power cord from the wall outlet.

2 Place the UX-G6's units onto the XM-G6 unit.
For example as follows, from top to bottom: AX-UXG6, XT-UXG6, TD-UXG6, finally XM-G6.

3 Using the system control cable-C, connect XM-G6 unit to XT-UXG6 unit.

When connecting the system control cable to the connector
Make sure to connect the cable to the terminal having the same name as "FROM CONNECTOR-C" and "TO CONNECTOR-C."

- To connect the system control cable, press the middle of the connector body until it clicks into the terminal on the rear panel.
- To disconnect, pull the connector out pushing both sides of the connector body. Never pull out the cables themselves.



4 Using the Optical digital cable, connect between XM-G6 unit and XT-UXG6 unit.

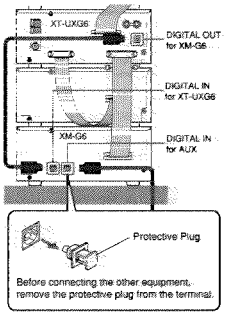
Now you have finished installation of XM-G6 unit to UX-G6 system.

English

Connecting Another Digital Audio Equipment

For digital audio recording onto an MD, XM-G6 unit connected to UX-G6 system has one more optical digital terminal (OPTICAL DIGITAL IN for AUX), prepared for an external digital audio output equipment.

When connecting another digital equipment
Make sure to turn off UX-G6 system with XM-G6 unit and unplug the AC power cord. Leave it until all the connection completes.



DO NOT place an external equipment onto (or under) UX-G6 system and XM-G6 unit.
Damage or malfunction may result from heat generating portion of units.

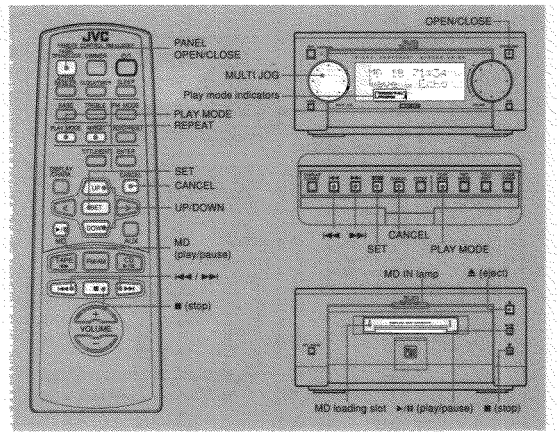
1 Turn off UX-G6 system and unplug the AC power cord from the wall outlet.

2 Using the Optical digital cable (not supplied), connect between XT-UXG6 unit and another digital equipment.

Now you have finished installation to UX-G6 system.

English

Playing Back an MD

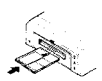


You can use Normal, Program, Random, or Repeat Play.

- When using the buttons behind the sliding panel, press OPEN/CLOSE button on AX-UXG6 unit to open the sliding panel first.
- When using the remote control, press MD ►/II (play/pause) button first and ■ (stop) button successively.

Playing Back the Entire MD — Normal Play

1 Insert an MD into the MD loading slot.
The MD is pulled in automatically to light on the MD IN lamp orange.



- Make sure to insert an MD in the direction of arrow mark on the MD cartridge.

If you cannot insert an MD
You have inserted an MD incorrectly and taken it off by force.
MD loading slot rejects MD insertion. If this occurs, wait for one minute at most with the MD recorder turned on until a mechanical sound comes out of the MD mechanism.

The following information appears in the display window of UX-G6 as follows:

Total track number
Total playback time

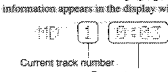
English

Continued

If the MD or each track has a title
The disc title and track titles will be shown at the lower portion of the display window (Title longer than 11 characters scrolls to show the entire title).

DO NOT insert any foreign matters.

2 Press ►/II (play/pause) button on the MD recorder or MD ►/II (play/pause) button on the remote control.
Each track of the MD starts playing back, and playback information appears in the display window as follows:



Current track number
Elapsed playing time

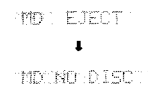
- **To stop playing back for a moment,** press ►/II (play/pause) button on the MD recorder.
The playback time starts blinking in the display window.

- **To resume playback,** press ►/II (play/pause) button again.
Playback continues from the point where it was stopped for a while.

3 Press ■ (stop) button to stop playing back the MD.

4 Press ▲ (eject) button on the MD recorder to remove the MD.

- Pressing ▲ (eject) button during playback directly, the MD recorder stops playback and ejects the MD.



Searching and Skipping Tracks

While playing back an MD, you can do the following operations.

To search and skip to a particular point in a track
During playback, press and hold I◄◄ / ►►I button to meet the desired passages in a track.

Press and hold ►►I button:
Fast forwards in the track.
Press and hold I◄◄ button:
Fast reverses in the track.

UP/DOWN button on the remote control is also available to search and skip operations.

To go to another track
Before or during playback, press I◄◄ / ►►I button repeatedly.

Press ►►I button:
Skips to the beginning of the next and succeeding tracks.
Press I◄◄ button:
Goes back to the beginning of the current and previous tracks.

Rotating MULTI JOG dial clockwise also changes the tracks forwards quickly, while rotating it counterclockwise the tracks reverse quickly (< / > button on the remote control also available).

English

Continued

Programing the Playing Order of the Tracks — Program Play

You can arrange the order in which the tracks play before you start playing. You can program up to 32 tracks.

1 Insert an MD.
- If the current playing source is not the MD, press ►/II (play/pause) button on the MD recorder, then ■ (stop) button before going to the next step.

2 Press PLAY MODE button repeatedly until "MD PROGRAM" appears in the display window.

- Each time you press the button, playback mode indicators also change as follows:

PROGRAM → RANDOM → Canceled (Normal play)

3 Rotate MULTI JOG dial to select a track number to be programed (< / > button also available).

Track number
Program number

4 Press SET button to enter selected track number to be program-played.

Track number
Program number

Here the track number 2 of the MD is stored into a program number 1, and shortly after that the total playback time of programed tracks appears in the display window as follows:

Total playback time

5 Repeat steps 3 to 4 to program other tracks you want up to 32 tracks.

notes
- **If you try to program a 33rd step**, "MEMORY FULL" will appear in the display window, and your entry is ignored.
- **The total playback time of programed tracks exceeds 99'59"**, "- - : - -" will appear in the display window.

6 Press ►/II (play/pause) button on the MD recorder.
The programed tracks are played back in the order you have set.

7 Press ■ (stop) button to quit Program play.
- When Program play finished, MD recorder automatically stops.

To check the program contents

Before playing back the MD, you can check the program contents by using |◄◄ / ►►| button.

Press ►►| button:
Shows the programed tracks in the programed order.
Press |◄◄ button:
Shows them in the reverse order.

To modify the program

Before playing back the MD, you can erase the last programed track by pressing CANCEL button. Each time you press the button, the last programed track is erased from the end of program.
- **To add new tracks to the program** before you start playing-back, simply select a track number again you want to add (repeat steps 3 to 4).

To erase all the programed data

After playing back the MD, you can erase all the programed track data by pressing ■ (stop) button. New program can be entered again.

To exit from Program play mode

Before or during playback, you can exit from Program play mode as follows:
- Before playback, press PLAY MODE button twice.
- During playback, press ■ (stop) button then PLAY MODE button twice.

Playback mode indicator goes off and the system resumes Normal play mode.

notes **Pressing ≙ (eject) button to eject the MD also quits Program play mode.**

Playing at Random — Random Play

The tracks of the loaded MD will play in no special order (at random) when you select this mode.

1 Insert an MD.
If the current playing source is not the MD, press ►/II (play/pause) button on the MD recorder, then ■ (stop) button before going to the next step.

2 Press PLAY MODE button repeatedly until "MD RANDOM" appears in the display window.

- Each time you press the button, playback mode indicator also changes as follows:

PROGRAM → RANDOM → Canceled (Normal play)

3 Press ►/II (play/pause) button on the MD recorder.

The track numbers are shuffled in the display window for a few seconds, and start playing back at random. Random play ends when all the tracks are played back once.
- Other MD operations are the same as Normal play.

4 Press ■ (stop) button to quit Random play.

To exit from Random play mode

During playing back the MD, you can exit from Random play mode as follows:
- Before playback, press PLAY MODE button once.
- During playback, press ■ (stop) button then press PLAY MODE button once.

Play mode indicator goes off and the system resumes Normal play mode.

notes **Pressing ≙ (eject) button to eject the MD also quits Random play mode.**

Repeating Tracks — Repeat Play

You can have the entire disc, the programed tracks, or the individual track repeat as many times as you like.

1 Insert an MD.
If the current playing source is not the MD, press ►/II (play/pause) button on the MD recorder, then ■ (stop) button before going to the next step.

2 Press REPEAT button on the remote control repeatedly to set the repeat play mode.
- Each time you press the button, repeat mode indicators light in the display window, and repeat playback mode changes as follows:

↻ → ↻ ALL → Canceled (Normal play)

↻ : Repeats one track on the MD or in a program.
↻ ALL : Repeats all the tracks on the MD or a program.

3 Press ■ (stop) button to quit Repeat play.

To exit from Repeat play mode

Pressing REPEAT button repeatedly until repeat mode indicators (↻ and ↻ ALL) goes off in the display window.

notes **Combining play modes:**
- When combining Program play and Repeat play, you can repeat whole the programed tracks or one track among them (↻ and ↻ ALL).
- When combining Random play and Repeat play, you can just repeat whole the shuffled tracks (only ↻ ALL).

English

Recording onto an MD

Things to Know Before You Start Recording

- **It may be unlawful to record or play back copyrighted material without the consent of the copyright owner.**
- The sampling frequency rate converter built in the MD recorder allows you to record a digital source if its sampling frequency is 32 kHz, 44.1 kHz, or 48 kHz. If no source equipment is connected to the AUX terminal or if the sampling frequency of the connected equipment is not 32 kHz, 44.1 kHz, or 48 kHz, "DIGITAL UNLOCK" appears in the display window (no recording is possible).
- When you record onto partially recorded MD, its contents are not erased or overwritten. The recording starts from the point following the last recorded track of the MD.
  If you want to record on such an MD from the beginning, you have to erase its contents first (see "ALL ERASE Function" on page 23).
- The recording level is automatically set correctly, so it is not affected by the VOLUME dial. Thus, during recording you can adjust the sound you are actually listening to without affecting the recording level.

About the track marks

When playing an MD, you can move among the tracks using MULTI JOG dial or < / > button quickly, and |◄◄ / ►►| or UP/DOWN button step by step.
You can do this because there is a mark recorded at the beginning of each track enabling you to locate the track. This mark is called a "**track mark**" and the portion between two adjacent track marks is called a "**track**."

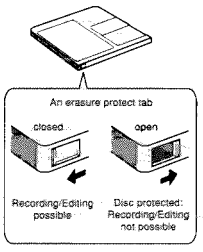
- **When recording from a digital source such as a CD player,** a track mark is recorded automatically at the beginning of each track.
- **When recording from an analog source such as FM/AM broadcasts,** no track mark is recorded on the MD. This means that, when playing this MD, the MD recorder will regard the entire recording as one track (track 1). You will not be able to select directly a certain portion or navigate through them. However, if there is a blank of three seconds or more, the MD recorder will consider it as a blank separating 2 tracks and consequently put a track mark.

To put a track mark manually while recording an analog source, press SET button where you want to put a track mark.

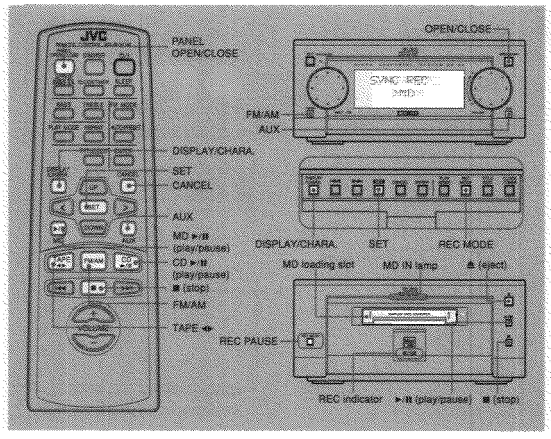
To add a track mark after recording is over, you can use the DIVIDE function (see page 20).

To avoid erasing important recordings

Recordable MDs have an erasure protect tab so that important recordings are not accidentally erased. When you finish recording or editing, slide open the erasure protect tab on the cartridge side surface. New recording or editing is now no longer possible.
To do re-recording or editing, return the tab to the closed position.



Continued



XM-G6 allows you to record a variety of audio sources onto an MD using either manual recording or synchronized recording.
- When using the buttons behind the sliding panel, press OPEN/CLOSE button on AX-UXG6 to open the sliding panel first.
- When using the remote control, press MD ►/II (play/pause) button first and ■ (stop) button successively.

Recording FM/AM Broadcasts

1 Insert a recordable MD with the arrow sign facing toward the MD loading slot.
The MD IN lamp lights orange and MD information appears in the display window — total track number and total playback time.
- If you insert a blank MD, "BLANK DISC" appears.

2 Press FM/AM button.

3 Tune into a desired station using MULTI JOG dial or |◄◄ / ►►| button.
Refer to UX-G6's Instructions for details (pages 14 – 15).

4 Press REC PAUSE button on the MD recorder.
The REC indicator on the MD recorder lights red. Information in the display window changes as follows:

Remaining time for recording

English

Continued

5 Press ▶/II (play/pause) button on the MD recorder to start recording.
The REC indicator remains lit, and recording starts.

- **To stop recording temporarily,** press REC PAUSE button or ▶/II (play/pause) button on the MD recorder or MD ▶/II (play/pause) button on the remote control.
- **To resume recording,** press ▶/II (play/pause) button on the MD recorder or MD ▶/II (play/pause) button on the remote control again.

6 Press ■ (stop) button to stop recording as required.
Information in the display window changes as follows:

WRITING

You can remove the MD by pressing ≙ (eject) button.

Using DISPLAY/CHARA. button while recording
Each time you press the button, the display window switches between the remaining time and the elapsed time with the current track number alternately.

Monophonic Long Recording

Using the REC MODE settings, you can record FM/AM broadcasts for twice as long as given recording time of the MD in monaural reception.

1 Repeat the steps 1, 2 and 3 in previous page.

2 Press REC MODE button to select a recording mode as follows:

MONO REC
>MD

3 Press SET button to start recording.
You can double the recording time length, and information appears in the display window as follows:

FM 87.50MHz
MD -140:04

Remaining time for recording

- **To stop recording temporarily,** press REC PAUSE button or ▶/II (play/pause) button on the MD recorder or MD ▶/II (play/pause) button on the remote control.
- **To resume recording,** press ▶/II (play/pause) button on the MD recorder or MD ▶/II (play/pause) button on the remote control again.

Track marking in Long Recording
Putting track marks manually while recording, you can easily identify and edit desired portions of the broadcast program.
To put a track mark, press SET button as required while recording and you can find out the current track number using DISPLAY/CHARA. button.

4 Press ■ (stop) button to stop recording as required.
"WRITING" appears in the display window, and you can remove the MD by pressing ≙ (eject) button.

Continued

English

Recording a CD

When recording a CD onto an MD, you can record the entire CD or the particular tracks manually and using the synchronized recording.

Recording a CD Manually

You can start recording an entire CD or any tracks of a CD while listening.

1 Insert a recordable MD into the MD loading slot.
The MD IN lamp lights orange.

2 Prepare a CD.
- Place a CD on the disc tray, press ▶/II (play/pause) button on the CD player or CD ▶/II (play/pause) on the remote control, then press ■ (stop) button before going to the next step.
- You can also record programed tracks if you want (refer to UX-G6's Instructions, pages 17 to 18).

3 Press REC PAUSE button on the MD recorder.
The REC indicator on the MD recorder lights red.

4 Press ▶/II (play/pause) button on the CD player or CD ▶/II (play/pause) button on the remote control.
Recording starts automatically, and information changes in the display window as follows:

CD Track number
Remaining time of each track
CD 1 -3:34
MD -78:16
Remaining time for recording

- **To stop recording temporarily,** press REC PAUSE button or ▶/II (play/pause) button on the MD recorder or MD ▶/II (play/pause) button on the remote control.
- **To resume recording,** press ▶/II (play/pause) button on the MD recorder or MD ▶/II (play/pause) button on the remote control again.

5 Press ■ (stop) button to stop recording as required.
"WRITING" appears in the display window, and you can remove the MD by pressing ≙ (eject) button.

Recording a CD — Synchronized Recording

This is the easiest way of CD recording. Setting the recording mode, you can start playing back an entire CD and recording it onto an MD simultaneously.

1 Repeat the steps 1 and 2 in previous section.

2 Press REC MODE button behind the sliding panel to select "SYNC REC >MD."
Each time you press the button, the recording mode changes as follows:

SYNC REC > MD → SYNC REC > TAPE → (cancel)

3 Press SET button to start recording.
Recording starts automatically, and information change in the display window as follows:

CD Track number
Remaining time of each track
CD 1 -3:34
MD -74:16
Remaining time for recording

Each time you press DISPLAY/CHARA. button, information switches between the remaining time and elapsed time with the current track number alternately.

While synchronized recording
You cannot use pause function until the recording finishes.

4 Press ■ (stop) button (on either the CD player or the MD recorder) to quit recording as required.
"WRITING" appears in the display window, and you can remove the MD by pressing ≙ (eject) button.
- When all the tracks finished recording, CD player and MD recorder will automatically stop.

To record a single track during playback
Press REC MODE button to set "SYNC REC>MD" mode, you can record a current track during playback. The playback of the current track is stopped, and the same track starts playing back from the beginning again. At the same time, the MD recorder starts recording the current track.
- When the current track is recorded, both CD player and MD recorder automatically stop.

English

Continued

Recording a Tape

When recording from TD-UXG6 cassette deck, you can select one of the two recording methods — Manual Recording (stereo) and Sound Synchronized Recording.

- Manual Recording — Sound is recorded in stereo (both on the left and right audio channels). You have to operate the MD recorder and the cassette deck respectively.
- Sound Synchronized Recording — With this method, you can start recording when the sound signals come into the MD recorder (sound is recorded in stereo).
Sound Synchronized Recording will stop automatically if no sound comes in for more than 30 seconds.

If Sound Synchronized Recording will not work correctly
Use the Manual Recording. Sound Synchronized Recording starts automatically when the MD recorder detects sound signals come in. If sound signal is too weak for this unit to detect, Sound Synchronized Recording will not start (or will stop even while the source is being played).

Recording a Tape Manually

1 Insert a recordable MD into the MD loading slot.
The MD IN lamp lights orange.

2 Prepare a tape playback.
- Place a tape on the tape tray, press ◀▶ (playback) button on the cassette deck or TAPE ◀▶ (playback) button on the remote control, then press ■ (stop) button before going to the next step.

3 Press REC PAUSE button on the MD recorder.
The REC indicator on the MD recorder lights red, and the MD recorder switches to the recording-pause mode.

4 Press ▶/II (play/pause) button on the MD recorder or MD ▶/II (play/pause) button on the remote control.
The MD recorder starts recording, and information changes in the display window and the remaining time for recording appears as follows:

TAPE
MD - 74:59

5 Press ◀▶ (playback) button on the cassette deck or TAPE ◀▶ (playback) button on the remote control in succession.

- **To stop recording temporarily,** press REC PAUSE button or ▶/II (play/pause) button on the MD recorder or MD ▶/II (play/pause) button on the remote control.
- **To resume recording,** press ▶/II (play/pause) button on the MD recorder or MD ▶/II (play/pause) button on the remote control again.

Each time you press DISPLAY/CHARA. button, information switches between the remaining time for the recording and the elapsed time with the track number of the MD alternately.

6 Press ■ (stop) buttons both on the MD recorder and the cassette deck to quit recording as required.
"WRITING" appears in the display window, and you can remove the MD and the tape by pressing ≙ (eject) buttons.

Using ■ (stop) button on the remote control, you cannot stop both the MD recorder and the cassette deck. Make sure to press each button on both units.

Recording a Tape — Sound Synchronized Recording

Setting the recording mode, you can start playing back a tape and recording it onto an MD simultaneously.

1 Repeat the steps 1 and 2 in the previous section on this page.

2 Press REC MODE button behind the sliding panel to select a recording mode as follows:

SOUND SYNC
>MD

3 Press SET button.
REC indicator on the MD recorder lights red, and information appears in the display window as follows:

TAPE
MD - 74:59

Continued

English

4 Press ◀▶ (playback) button on the cassette deck or TAPE ◀▶ (playback) button on the remote control.
Once the cassette deck starts playback, the MD recorder detects the audio signals and starts recording.

Each time you press DISPLAY/CHARA. button, information switches between the remaining time for the MD and the elapsed time for the MD alternately.

- If no sound comes in for more than 30 seconds, Sound Synchronized Recording will stop. "WRITING" appears in the display window, and you can remove the MD by pressing ≙ (eject) button.

Recording onto a Tape

You can record an MD onto a tape manually and using the recording mode feature.
- For details on recording operation of TD-UXG6 cassette deck, refer to UX-G6's Instructions (pages 22 – 24).

Recording an MD onto a tape manually

1 Insert an MD to be played-back into the loading slot, and load a recordable tape.
The MD IN lamp lights orange.

2 Press ▶/II (play/pause) button on the MD recorder or MD ▶/II (play/pause) button on the remote control, then press ■ (stop) button immediately to prepare playing back the MD.

3 Press REC PAUSE button on TD-UXG6 cassette deck to prepare for recording.

4 Press ▶/II (play/pause) button on the MD recorder or MD ▶/II (play/pause) button on the remote control.
The cassette deck automatically starts recording, and the information changes as follows:

Track number Elapsed playback time
MD 1 0:00
TAPE REC

5 Press ■ (stop) button (on either the MD recorder or the cassette deck) to quit recording as required.
- When all the tracks finished recording, MD recorder and the cassette deck will automatically stop.

Synchronized recording an MD onto a tape

1 Insert an MD to be played-back into the loading slot, and load a recordable tape.
The MD IN lamp lights orange.

2 Press ▶/II (play/pause) button on the MD recorder or MD ▶/II (play/pause) button on the remote control, then press ■ (stop) button immediately to prepare playing back the MD.

3 Press REC MODE button behind the sliding panel to select "SYNC REC>TAPE."

SYNC REC
>TAPE

4 Press SET button to start recording.
Recording the MD onto the tape starts, and information appears in the display window as follows:

Track number Elapsed playback time
MD 1 0:00
TAPE REC

5 Press ■ (stop) button (on either the MD recorder or the cassette deck) to quit recording as required.
- When all the tracks finished recording, MD recorder and the cassette deck will automatically stop.

English

Continued

Recording the External Equipment

When recording from the external equipment, you can select one of the two recording methods — Manual Recording and Sound Synchronized Recording.

- Manual Recording — Sound is recorded in stereo (both on the left and right audio channels). You have to operate the MD recorder and the external equipment respectively.
- Sound Synchronized Recording — With this method, you can start recording when the sound signals come into the MD recorder (sound is recorded in stereo). Sound Synchronized Recording will stop automatically if no sound comes in for more than 30 seconds.

If Sound Synchronized Recording will not work correctly
Use the Manual Recording. Sound Synchronized Recording starts automatically when the MD recorder detects sound signals come in. If sound signal is too weak for this unit to detect, Sound Synchronized Recording will not start (or will stop even while the source is being played).

Recording the External Equipment Manually

First of all, make sure the proper cable connections between XM-G6 MD recorder and external equipment (see also page 6 in this manual, and refer to UX-G6's Instructions pages 9).

1 **Insert a recordable MD.**
The MD IN lamp lights orange.

2 **Press AUX button to select either analog source or digital source according to the external equipment.**
Each time you press AUX button, AUX mode changes between "AUX" and "AUX DIGITAL" alternately.

AUX ⟷ AUX DIGITAL

3 **Press REC PAUSE button on the MD recorder.**
The REC indicator on the MD recorder lights red, and the MD recorder switches to the recording-pause mode.

4 **Press ▶/II (play/pause) button on the MD recorder or MD ▶/II (play/pause) button on the remote control.**
Selected source and remaining time for recording appear in the display window as follows:

5 **Make the external equipment start playback in succession.**
- **To stop recording temporarily,** press REC PAUSE button or ▶/II (play/pause) button on the MD recorder or MD ▶/II (play/pause) button on the remote control.
- **To resume recording,** press ▶/II (play/pause) button on the MD recorder or MD ▶/II (play/pause) button on the remote control again.

Each time you press DISPLAY/CHARA. button, information switches between the remaining time for the MD and the elapsed time for the MD alternately.

6 **Press ■ (stop) button on the MD recorder to stop recording as required.**
"WRITING" appears in the display window, and you can remove the MD by pressing ⏏ (eject) button.

English

Recording the External Equipment — Sound Synchronized Recording

Setting the recording mode, you can start playing back the external equipment and recording from it onto an MD simultaneously.
First of all, make sure the proper cable connections between XM-G6 MD recorder and external equipment (see also page 6 in this manual, and refer to UX-G6's Instructions page 9).

1 **Insert a recordable MD.**
The MD IN lamp lights orange.

2 **Press AUX button to select either analog source or digital source according to the external equipment.**
Each time you press AUX button, AUX mode changes between "AUX" and "AUX DIGITAL" alternately.

AUX ⟷ AUX DIGITAL

3 **Press REC MODE button to select recording mode as follows:**

4 **Press SET button to start recording from the external equipment.**
Selected source and remaining time for recording appear in the display window as follows:

- **To stop recording temporarily,** press REC PAUSE button or ▶/II (play/pause) button on the MD recorder or MD ▶/II (play/pause) button on the remote control.
- **To resume recording,** press ▶/II (play/pause) button on the MD recorder or MD ▶/II (play/pause) button on the remote control again.

Each time you press DISPLAY/CHARA. button, information switches between the remaining time for the MD and the elapsed time for the MD alternately.

- If no sound comes in for more than 30 seconds, Sound Synchronized Recording will stop. "WRITING" appears in the display window, and you can remove the MD by pressing ⏏ (eject) button.

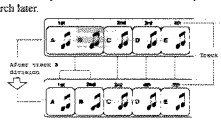
English

Editing an MD

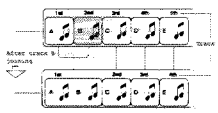
Introducing MD Editing Functions

A recorded MD can be edited in many ways. The MD editing functions include dividing, joining, moving, erasing single tracks, erasing the entire disc, and more than one of them can be combined as required.

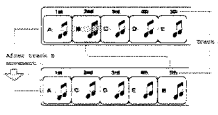
Dividing a track (DIVIDE) : Page 20
This function divides a track by adding a track marking(s) in the desired point(s) in the middle or where you want to search later.



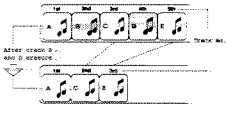
Joining a track (JOIN) : Page 21
This function joins two adjacent tracks into a single track by deleting a track marking.



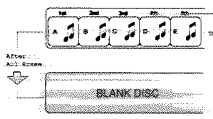
Moving a track (MOVE) : Page 22
This function moves a track by reordering the track numbers.



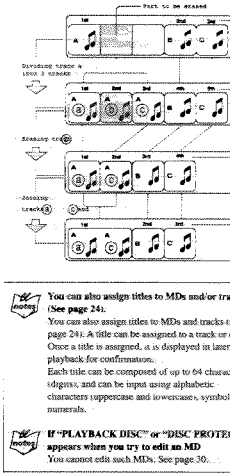
Erasing a track (ERASE) : Page 22
This function erases specified tracks. After the erasure, the subsequent tracks are justified and their track numbers are decremented automatically.



Erasing all tracks (ALL ERASE) : Page 23
This function erases data in a disc entirely.



Erasing a Portion of a Track
By combining "DIVIDE," "ERASE," and "JOIN," for example, it is possible to erase only a part of an existing track.

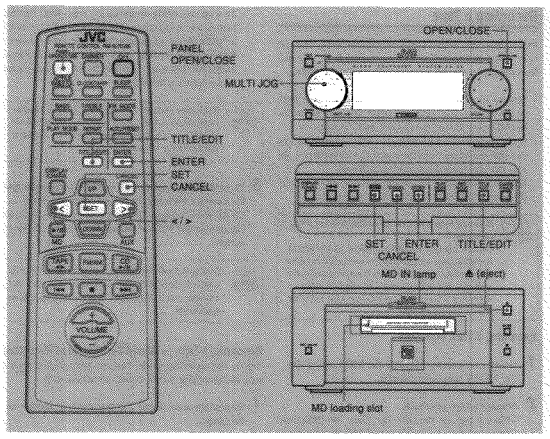


You can also assign titles to MDs and/or tracks (See page 24).
You can also assign titles to MDs and tracks (see page 24). A title can be assigned to a track or disc. Once a title is assigned, it is displayed in later playback for confirmation.
Each title can be composed of up to 64 characters (digits), and can be input using alphabetic characters (uppercase and lowercase), symbols and numerals.

If "PLAYBACK DISC" or "DISC PROTECTED" appears when you try to edit an MD
You cannot edit such MDs. See page 30.

English

Continued



- **To operate with the buttons behind the sliding panel,** press OPEN/CLOSE button on AX-UXG6 to open the sliding panel first.
- **To operate with the remote control,** press MD ▶/II (play/pause) button first and ■ (stop) button successively.
- **To quit operations any time during editing process,** press TITLE/EDIT button repeatedly to resume normal operation mode.

DIVIDE Function

This function allows you to divide one track into two separate tracks. It is useful, for example, when you want to add track marks at a certain point within a track or if you want to separate a recording.

1 **Insert an MD you want to edit into the MD loading slot.**
The MD IN lamp lights orange.

2 **Press TITLE/EDIT button until "DIVIDE?" appears in the display window.**

3 **Press SET button.**
The information of the first track of the MD appears in the display window, and playback starts.

4 **Rotate MULTI JOG dial or < / > button on the remote control to select the track you want to divide.**

English

Continued

- If "TRACK PROTECTED" appears, the selected track has been write-protected by another component. You cannot edit such a protected track. To cancel the editing, press TITLE/EDIT button.

5 Press SET button when you find the point where you want to divide the track.
The MD recorder repeats the selected point — a portion of three seconds length following the dividing point.

POSITION
+ 0 OK?

- If you have selected a wrong track number, press CANCEL button then select the correct track.

6 Rotate MULTI JOG dial (< / > button also available) to precisely adjust the dividing point.
- You can shift the dividing point up to ±128. This range (±128) corresponds to approximately ±8 seconds from the original point (Position 0).

POSITION
+ 15 OK?

When you stop rotating MULTI JOG dial, the system repeats the newly selected dividing point.

7 When you find the right position, press SET button.
"PUSH ENTER" appears in the display window.

PUSH ENTER

8 Press ENTER button to finish the editing procedures.
- If you want to cancel the editing, press CANCEL button.

EDITING

9 Press ▲ (eject) button to eject the MD.
"WRITING" appears while the editing you have made is being recorded onto the MD.

To join the divided tracks again, see the JOIN function.

JOIN Function

This function allows you to join two adjacent tracks into one track.
- To quit any time during editing process, press TITLE/EDIT button.

1 Insert an MD you want to edit into the MD loading slot.
The MD IN lamp lights orange.

2 Press TITLE/EDIT button until "JOIN?" appears in the display window.

JOIN?

3 Press SET button.

JOIN
2+ 3 OK?

4 Rotate MULTI JOG dial to select the two adjacent tracks you want to join (< / > button also available).

5 Press SET button.

PUSH ENTER

- If you have selected wrong tracks, press CANCEL button, then select the correct tracks by rotating MULTI JOG dial (< / > button also available).
- If you want to cancel the editing, press TITLE/EDIT button.
- If "TRACK PROTECTED" appears, the selected track has been write-protected by another component. You cannot edit such a protected track. To cancel the editing, press TITLE/EDIT button.

6 Press ENTER button to finish the editing procedures.

EDITING

7 Press ▲ (eject) button to eject the MD.
"WRITING" appears while the editing you have made is being recorded on the MD.

To divide the joined tracks, see the DIVIDE function.

English

Continued

MOVE Function

This function allows you to move a track to the position you prefer. It is useful to change the order of the tracks as you like.
- To quit any time during editing process, press TITLE/EDIT button.

1 Insert an MD you want to edit into the MD loading slot.
The MD IN lamp lights orange.

2 Press TITLE/EDIT button until "MOVE?" appears in the display window.

MOVE?

3 Press SET button.

MOVE
—+ 1 OK?

4 Rotate MULTI JOG dial to select the track you want to move (< / > button also available).

5 Press SET button.

MOVE
—+ 1 OK?

- If you have selected a wrong track number, press CANCEL button, then select the correct track number again.

6 Rotate MULTI JOG dial to select the position where you want to move the track (< / > button also available).

7 Press SET button.

PUSH ENTER

- If you have selected wrong tracks, press CANCEL button, then select the correct tracks by rotating MULTI JOG dial (< / > button also available).
- If you want to cancel the editing, press TITLE/EDIT button.

8 Press ENTER button to finish the editing procedures.

EDITING

9 Press ▲ (eject) button to eject the MD.
"WRITING" appears while the editing you have made is being recorded on the MD.

ERASE Function

This function allows you to erase an unwanted track.
- To stop any time during editing process, press TITLE/EDIT button.

1 Insert an MD you want to edit into the MD loading slot.
The MD IN lamp lights orange.

2 Press TITLE/EDIT button until "ERASE?" appears in the display windows.

ERASE?

3 Press SET button.

5-ERASE?
— — —

4 Rotate MULTI JOG dial to select the track you want to erase (< / > button also available).

5 Press SET button.

5-ERASE?
5 — —

- If you have selected a wrong track number, press CANCEL button, then select the correct track number.
- If "TRACK PROTECTED" appears, the selected track has been write-protected by another component. You cannot edit such a protected track. To cancel the editing, press TITLE/EDIT button.

6 Repeat steps 4 and 5 if you want to erase more tracks (three tracks erasable at a time).

English

Continued

7 Press ENTER button to finish your selection of tracks to erase.

PUSH ENTER

- If you want to cancel the editing, press CANCEL button.

8 Press ENTER button again.

EDITING

9 Press ▲ (eject) button to eject the MD.
"WRITING" appears while the editing you have made is being recorded on the MD.

ALL ERASE Function

This function allows you to erase all the tracks on an MD.
- To stop any time during editing process, press TITLE/EDIT button.

1 Insert an MD you want to edit into the MD loading slot.
The MD IN lamp lights orange.

2 Press TITLE/EDIT button until "ALL ERASE?" appears in the display window.

ALL ERASE?

3 Press SET button.

PUSH ENTER

- If you want to cancel the editing, press CANCEL button.
- If "TRACK PROTECTED" appears, the selected track has been write-protected by another component. You cannot edit such a protected track. To cancel the editing, press TITLE/EDIT button.

4 Press ENTER button to erase all the tracks.

EDITING
⬇
BLANK DISC

5 Press ▲ (eject) button to eject the MD.
"WRITING" appears while the editing you have made is being recorded on the MD.

Erasing a Portion of a Track

You can erase just a portion of one track by using the DIVIDE, ERASE and JOIN functions.
- To stop any time during editing process, press TITLE/EDIT button.

1 Insert an MD you want to edit into the MD loading slot.
The MD IN lamp lights orange.

2 Press TITLE/EDIT button repeatedly to select DIVIDE function.

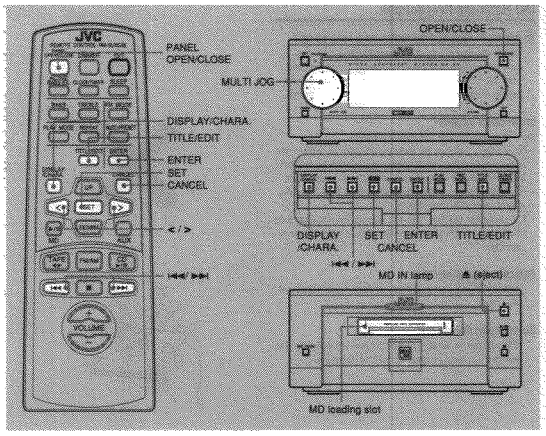
3 Divide a track into 3 portions to isolate the portion to erase.
- Use the DIVIDE function by referring to page 20.

4 Erase the middle portion.
- Use the ERASE function by referring to page 22.

5 Join the two remaining portions.
- Use the JOIN function by referring to page 21.

English

Assigning Titles to an MD



You can assign a name to each MD and to each track. Once a title is assigned, it is displayed in later playback for confirmation.
Each title can be composed of up to 64 characters, and can be input using alphabetic characters (uppercase and lowercase), symbols and numerals.

- **To operate with the buttons behind the sliding panel,** press OPEN/CLOSE button on AX-UXG6 to open the sliding panel first.
- **To operate with the remote control,** press MD ▶/❚❚ (play/pause) button first and ■ (stop) button successively.
- **To quit operations any time during editing process,** press TITLE/EDIT button repeatedly to resume normal operation mode.

Assigning a Title

1 Insert an MD you want to edit into the MD loading slot.
The MD IN lamp lights orange.

2 Press TITLE/EDIT button to enter title entry mode as follows:
a) Pressing once makes track title entry available.

TITLE?

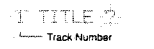
b) Pressing twice makes disc title entry available, and go to step 4.

DISC TITLE?

English

Continued

3 Press SET button to select the track number.



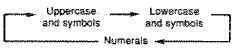
Rotate MULTI JOG dial to select desired track number (or press < / > button on the remote control).

4 Press SET button again to enter the character entry mode.

The character sets present 11 characters alphabetically at a time in the upper portion of the display window.

You can select a character from character sets in the upper portion of the display window, and enter it into the character entry box in the lower portion.

5 Press DISPLAY/CHARA. button repeatedly to select the character sets as follows:

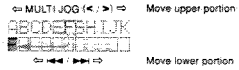


- See the character sets table on page 26 to know what characters, symbols, and numerals you can use.

6 Enter a character — an example to enter "F."

a) Rotate MULTI JOG dial (or press < / > button) to move the blinking box where a character you want exists.

b) For example, select the character "F" from "ABCDEFGHIJK" on the upper portion then press SET button.
Selected character is entered into an entry box on the lower portion of the display window.



- **To move the characters on the upper portion,** rotate MULTI JOG dial (or press < / > button on the remote control.
- **To move the character entry box on the lower portion,** press ⏮ / ⏭ button.

Each time you press SET button, the character entry box moves character by character. The display window can show just 11 characters at a time.

- If you enter the 12th character, the first character scrolls out to the left end.
- You can also scroll back to select and insert a new character using MULTI JOG dial and the similar controlling buttons.
- If you have entered an incorrect character, press CANCEL button to delete the last entry.
- **To enter a blank,** select a "(blank)" in the upper portion in the display window, then press SET button.

7 Repeat steps 5 and 6 to enter and edit other characters.

8 Press ENTER button to exit from title entry.

"PUSH ENTER" appears in the display window.

- If you want to cancel the editing, press TITLE/EDIT button after pressing ENTER button here.

9 Press ENTER button to fix desired characters.

- Pressing ⏏ (eject) button, "WRITING" appears and the editing you have made is being recorded onto the MD.

You can assign titles during play or recording

- **During play:**

Entering a track title

The MD recorder repeats playback of the current track until you press ENTER button in step 8 above. When you press ENTER button, the next track will be played.

Entering a disc title

The MD recorder repeats playback of all tracks of the MD until you press ENTER button in step 8 above. When you press ENTER button, the MD recorder enters the track title entry mode.

- **During recording:**

Entering a track title

The MD recorder continues recording even after you press ENTER button in step 8 above. When you press ENTER button, a track title is assigned to the track where you have started the title entry.

English

- **During Synchronized Recording:**

You can assign the disc title, and 15 track titles one after another as recording goes on. The track titles you have entered are automatically assigned to the tracks recorded on the MD in sequential order. If you enter 16th track title or more, they are ignored.

Changing the Title

You can make a correction or change the title.

1 Follow steps 1 to 4 of pages 24 to 25.

2 Rotate MULTI JOG dial or press < / > button to select the character you want to correct.

- Make sure that the character you want to change is blinking.

3 Press CANCEL button to delete the character you have selected in the step 2.

4 Enter the correct character.

a) Press DISPLAY/CHARA. button to select the character set you want.

b) Rotate MULTI JOG dial (or press < / > button) to select the correct character, then press SET button.

5 Repeat steps 2 to 4 to correct another characters.

6 Press ENTER button twice to finish correcting the title.

- If you want to cancel the correction, press CANCEL button after pressing ENTER button once in this step.

7 Press ⏏ (eject) button to eject the MD.

"WRITING" appears while the editing you have made is being recorded on the MD.

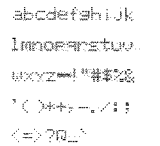
To erase all the characters

Press CANCEL button repeatedly in step 3 above to erase all the characters, then go to step 6.

Available Characters

Uppercase and Symbols

Lowercase and Symbols



Numerals

English

Handling MDs

MD Handling Precautions

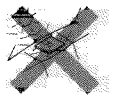
To maintain high quality audio for a long period

Since the disc is accommodated inside a cartridge, it can be handled easily without caring about dust and dirt. However, to maintain the high audio quality for an extended period, use care in the following points.

Installation location

Do not install the MD in following places.

- In a place subject to direct sunlight or where the temperature rises, for example in a closed automobile. The disc may be warped and unusable in these places.
- In a bathroom or where the humidity is high. The disc may be rusted in these places.
- On a beach or sandbox. The disc surface may be scratched or damaged if grit penetrates through an opening on the cartridge.



Periodical maintenance

When the cartridge gets dusty or dirty, wipe with a soft, dry cloth.

Do not open the shutter.

The shutter is usually locked to prevent opening. Do not force it open or the disc may be destroyed.

English

Additional Information

MD Disc Types

There are two types of MDs: Premastered (prerecorded) and Recordable (blank).

Premastered MDs

Premastered MDs, which have been recorded at music studio, can be played back like regular CDs. On an MD of this type, data is recorded as the presence or absence of tiny pits. A laser beam focuses on the pits on the surface of the MD and reflects the detection back to the lens in the MD recorder. The MD recorder then decodes the signals and plays them back as music. This type of MD is called an "optical disc."

Recordable MDs

Recordable MDs, which use magneto-optical technology, can be recorded and played back repeatedly. The laser inside the MD recorder applies heat to the MD, demagnetizing the magnetic layer of the MD for recording and playback. This type of MD is called "magnetic-optical disc."

Premastered MD

Recordable MD

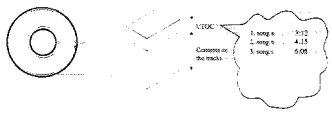
ATRAC (Adaptive TRansform Acoustic Coding)

The MD provides 80 (max.) minutes recording and playback time, more than that of an audio CD, but in a diameter of only 64 mm. This ability to store such a large amount of data is the result of ATRAC, an audio compression technique developed for MD. This technology cuts out faint sounds that would not be heard by the human beings. This technology, based on human sensitivity to sounds, reduces recorded data volume up to about one-fifth of that of the original data.

UTOC (User Table Of Contents)

Found only on recordable MDs, this area contains sub-data (track number, recording data, etc.) which can be rewritten by the user.

UTOC enables us to search tracks quickly and edit tracks on the MD.



English

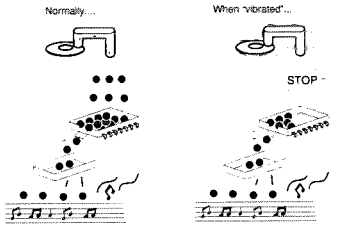
Continued

Serial Copy Management System (SCMS)

The MD recorder integrated to this unit uses the Serial Copy Management System which allows only first-generation digital copies to be made of premastered software (like CDs or prerecorded MDs).

Sound Skip Guard Memory

The biggest weakness of discs is their susceptibility to vibration. The "Sound Skip Guard Memory" has been developed to cope with this weakness.
With this function, a few seconds of signals read by the optical read head from the disc are first stored in memory before being reproduced as audio signals. Thus, even when vibration or shock interrupts signals being read, these stored signals can continue to reproduce sounds for the few seconds. Thus, the user will enjoy uninterrupted music.



Continued

English

MD Messages

Message	Signification	Solution
BLANK DISC	The disc is blank.	Change the MD with another if you want to enjoy playback.
CANNOT JOIN	You are trying to join tracks which cannot be joined.	This is not a malfunction (see MD Restrictions on page 31).
DIGITAL IN UNLOCK	There is no digital device connected to the DIGITAL IN terminals.	Connect digital device using optical digital cable properly.
DISC ERROR	There is a problem with this MD.	Change the MD.
DISC FULL	There is no more space on the MD or there are over 254 tracks.	Use another recordable MD or erase some tracks.
DISC PROTECTED	The MD is write-protected.	Unprotect the MD or use another (see page 11).
EMERGENCY STOP	A malfunction has occurred during the recording.	Eject the MD and re-insert it.
LOAD ERROR	MD is not inserted correctly.	Insert the MD correctly.
MD NO DISC	There is no MD.	Put an MD.
NON-AUDIO CANNOT COPY	You are trying to copy a non-audio disc like a CD-ROM or a Video CD.	Stop recording.
PLAYBACK DISC	You are trying to edit or record on a playback-only MD.	Use a recordable MD.
SCMS CANNOT COPY	Digital copy of the 2nd generation is prohibited.	Use an analog recording method.
TRACK PROTECTED	A track has been protected against accidental erasure by other component than the MD recorder in use.	This protection cannot be released by this MD recorder. To stop editing, press TITLE/EDIT button.

English

Continued

MD Restrictions

The MD records data in an original format that differs from that of conventional cassette tapes or DATs. Since there are some limitations with this recording format, the following types of symptoms may occur. These symptoms are not malfunctions.

Symptoms	Cause
"DISC FULL" appears, even though there is still enough remaining time on an MD.	There is a maximum number of tracks which can be recorded, regardless of recording time. More than 254 tracks cannot be recorded on an MD.
"DISC FULL" appears even though the number of tracks and recording time do not reach the limit.	• Repeating erasure and recording on the same MD creates many blank portions sparsely on the MD. When recording on such an MD, a track is recorded on these blank portions sparsely. If a track is divided and recorded into so many portions, "DISC FULL" appears. • If a divided portion of less than 8 seconds is made while a track is recorded on the MD, that track cannot be joined to another track using the JOIN function. Furthermore, if that track is erased, the remaining time of the MD may not increase exactly by the erased amount. • If a track has been divided into many portions while being recorded on the MD, sounds will drop out while fast forwarding or reversing such an MD.
The JOIN function sometimes does not work.	
The remaining time on the MD does not increase even when tracks are erased.	
The sound drops out during fast forward or fast rewind.	
The amount of recorded time on the MD added to the amount of remaining time is shorter than the MD's total possible recording time.	You cannot record on a blank portion of less than 2 seconds in the MD. For this reason, the actual recording time of discs may become shorter.

English

Troubleshooting

If you are having a problem with your unit, check this list for a possible solution before calling for service.
If you cannot solve the problem from the hints given here, or the unit has been physically damaged, call a qualified person, such as your dealer, for service.

Symptom	Possible Cause	Action
No sound is heard.	• Connections are incorrect, or loose.	• Check all connections and make corrections (see pages 5 – 6).
Unable to record on an MD.	• You are using a prerecorded MD.	• Change it with a recordable MD.
	• The MD is write-protected.	• Unprotect the MD (see page 11).
Unable to operate the remote control.	• The path between the remote control and the remote sensor on the unit is blocked.	• Remove the obstruction.
	• The batteries have lost their charge.	• Replace the batteries.
Loaded MD cannot be ejected.	• The main AC power cord is not plugged in.	• Plug in the AC power plug.
Operations are disabled.	• The built-in microprocessor has malfunctioned due to external electrical interference.	• Unplug the unit then plug it back in.

Specifications

MD recorder

Audio Playing System: MiniDisc digital audio system
Recording System: Magneto-optical overwrite system
Reading System: Non-contact, semiconductor laser pickup (λ=780 nm)
Error Correction System: CIRC (Cross Interleave Reed-Solomon Code)
Sampling Frequency: 44.1 kHz (With sampling rate converter for recording — 32 kHz/44.1 kHz/48 kHz)
Audio Compression System: ATRAC (Adaptive TRansform Acoustic Coding)
Wow and Flutter: Immeasurable
Dimensions (approx.): 181 mm x 81 mm x 310 mm (W/H/D)
Mass (approx.): 1.7 kg

Supplied Accessories

See page 5.

Design and specifications are subject to change without notice.

US and foreign patents licensed from Dolby Laboratories Licensing Corporation.

<< M E M O >>

Disassembly method

<Main body>

■Removing the top cover (See Fig.1)

1. Remove the two screws A and the four screws B attaching the top cover.

2. Remove the top cover from behind in the direction of the arrow while pulling the sides outward.

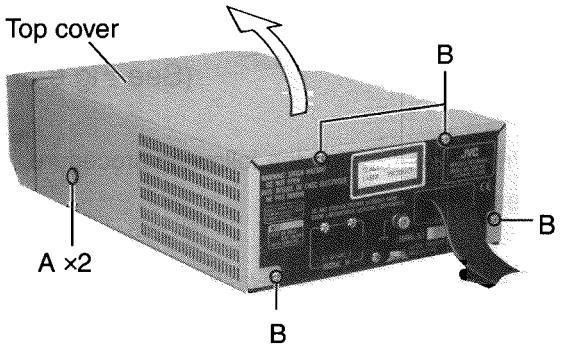


Fig. 1

■Removing the front panel assembly

(See Fig.2 to 5)

- Prior to performing the following procedure, remove the top cover.

1. Disconnect the harness from connector CN832 on the signal input/output board.

2. Remove the two screws C attaching the ground terminal on the MD mechanism assembly.

3. Remove the three screws D on the bottom of the body.

4. Release the joint "a" on the bottom and the joints "b" on both sides of the body, and remove the front panel assembly toward the front.

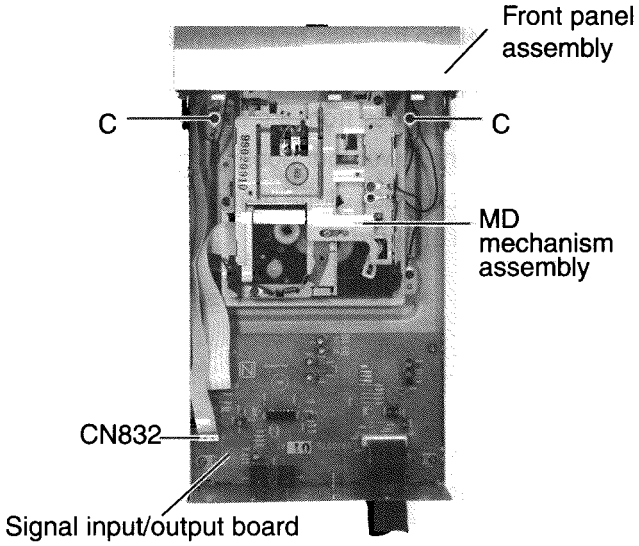


Fig. 2

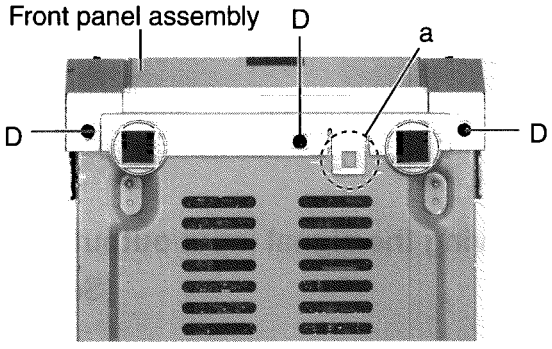


Fig. 3

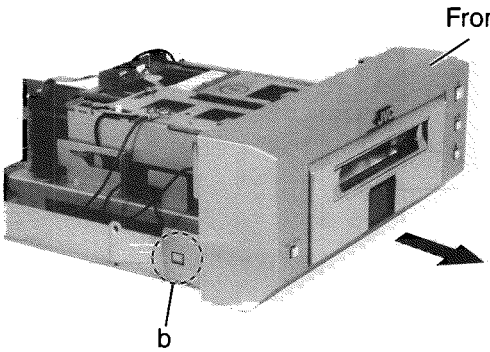


Fig. 5

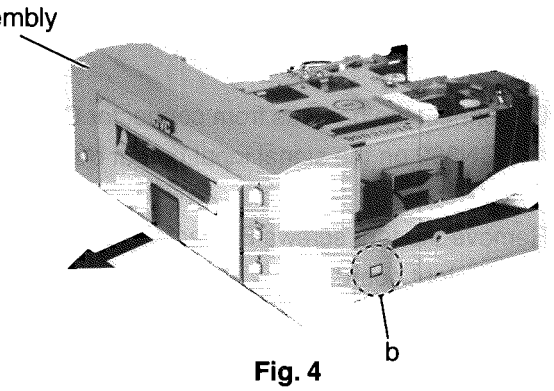


Fig. 4

■Removing the rear panel

(See Fig.6 and 7)

- Prior to performing the following procedure, remove the top cover.

1. Remove the three screws E attaching the rear panel on the back of the body and release the two joints "c" on both sides while moving the rear panel upward.

2. Disconnect the harness from connector CN833 on the signal input/output board. (When disconnecting the harness from the rear panel, unhook the upper and lower four hooks of the wire stopper on the back of the rear panel and pull out the harness outward.)

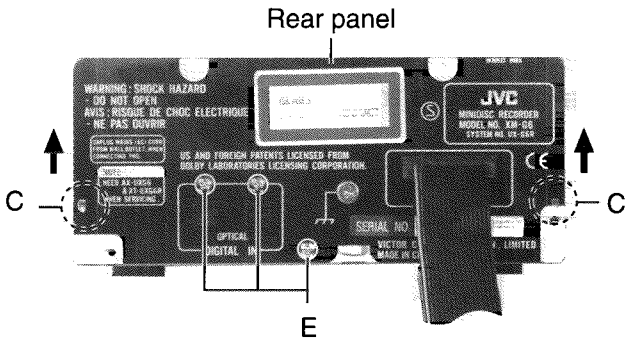


Fig. 6

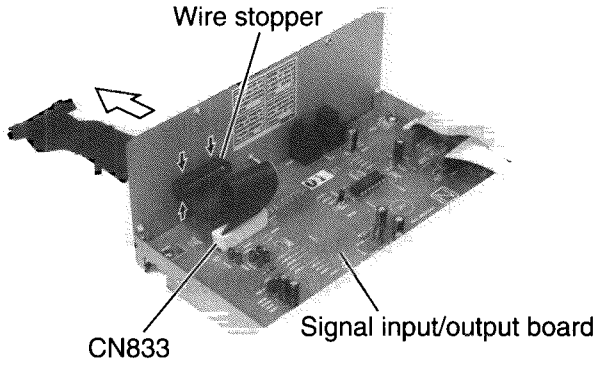


Fig. 7

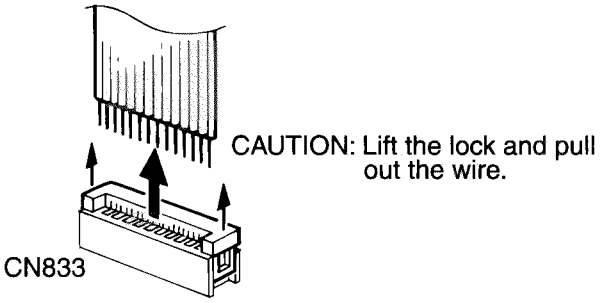


Fig.7-1

■Removing the signal input/output board

(See Fig.8)

- Prior to performing the following procedure, remove the top cover
and the rear panel.

1. Disconnect the harness from connector CN831 and CN832 on the signal input/output board.

2. Remove the four screws F attaching the signal input/output board.

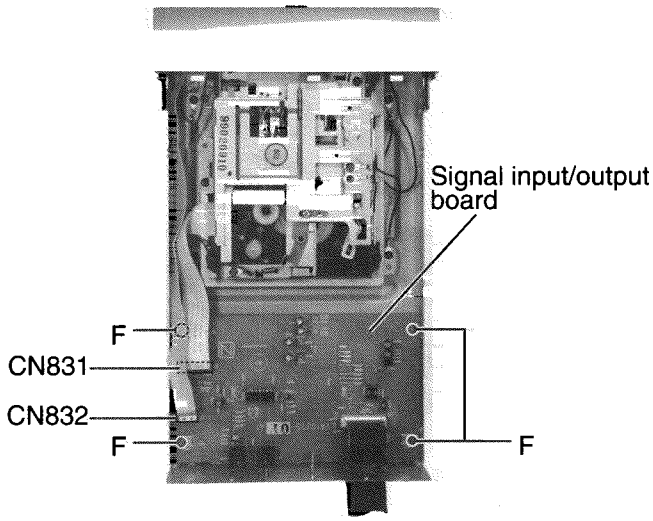


Fig. 8

■Removing the MD mechanism assembly

(See Fig.9)

- Prior to performing the following procedure, remove the top cover.

1. Disconnect the card wire from connector CN831 on the signal input/output board.

2. Remove the four screws C attaching the MD mechanism assembly.

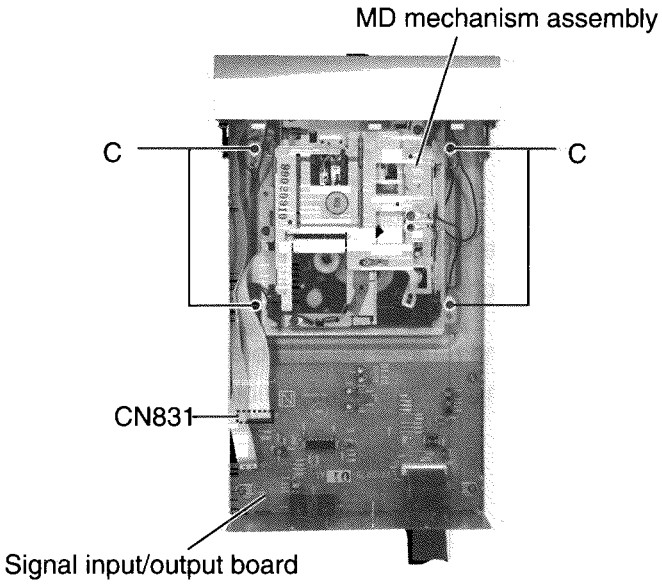


Fig. 9

■Removing the front board (See Fig.10)

- Prior to performing the following procedure, remove the top cover and the front panel assembly.

1. Remove the eight screws G attaching the front board in the front panel assembly.

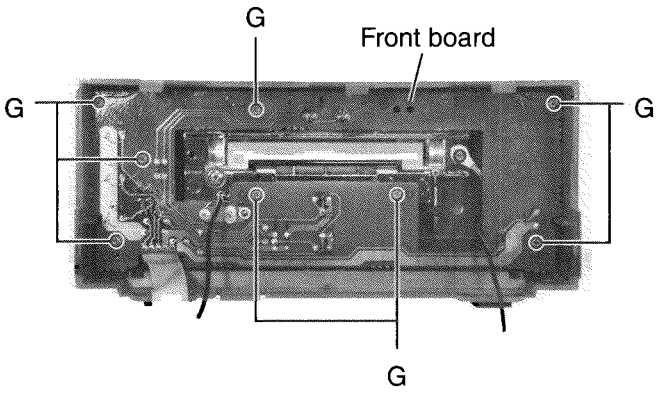


Fig. 10

< MD Mechanism Assembly >

■Removing the MD Mechanism assembly

(see Fig.1)

1. From the right side of the MD mechanism, remove the two screws A attaching the side bracket.
2. Remove the four dampers in the corners of the MD mechanism.
3. Slide and remove the side bracket and MD mechanism base in the directions of the arrows.

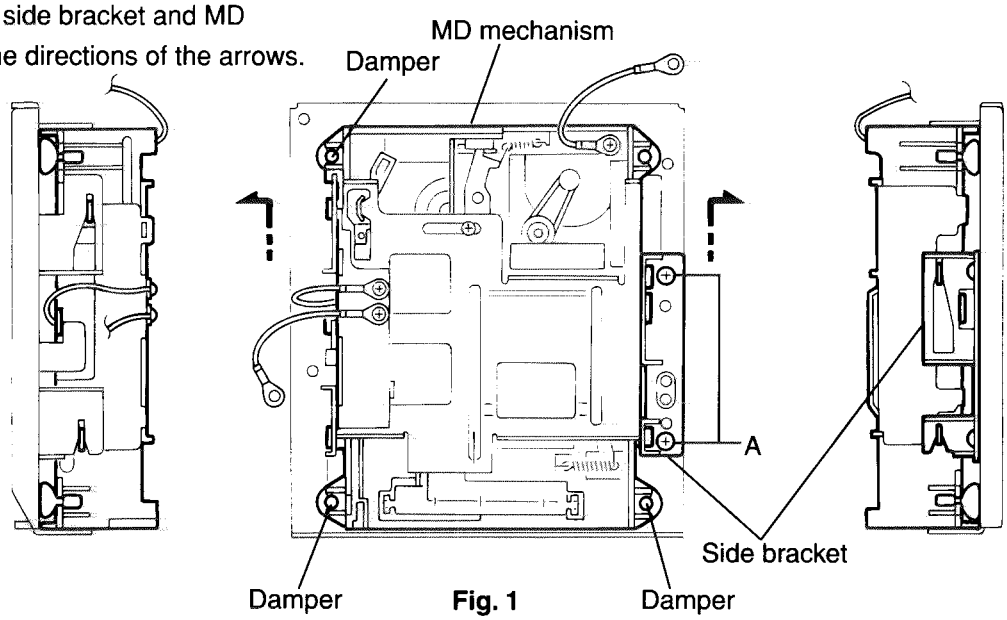


Fig. 1

■Removing the MD Servo Board (see Fig.2)

1. Remove the MD mechanism assembly.
2. Turn over the MD mechanism, then disconnect the harnesses connected to connector CN407 and CN408 on the MD servo board.
3. Disconnect the flexible wire connected to connector CN521 on the MD servo board (see Fig.2-2).
4. Remove the two screws B attached on the reverse side of the MD mechanism.
5. Solder the patterns on the pickup unit as shown in the Fig.2-1, and disconnect the flexible wire connected to connector CN1 on the MD servo board.

Caution: Make sure to solder the patterns to prevent damage to the pickup unit.

6. Remove the MD servo board upward while pulling out (a) inserted to the front holder of the MD servo board toward the rear.

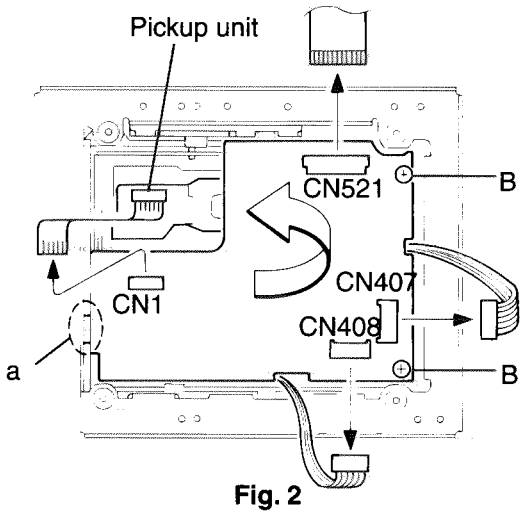


Fig. 2

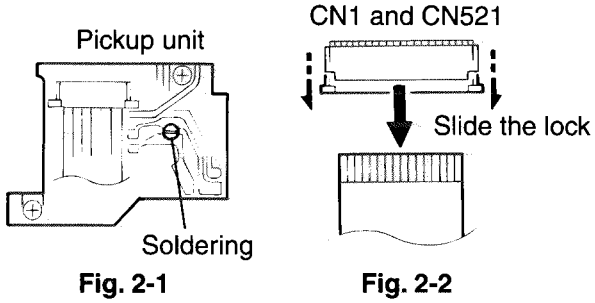


Fig. 2-1 **Fig. 2-2**

■ Removing the MD traverse mechanism

(see Fig.3,4)

1. Remove the MD mechanism assembly.
2. Remove the MD servo P.C.board.
3. Remove the one screw C attaching the slide bracket.
4. Remove the one screw D attaching the earth lag terminal.
5. Remove the two screws E attaching the MD traverse mechanism, then remove the bracket.
6. Remove the soldered two wires from magnetic head on loading P.C.board.

[CAUTION]

1. When remove the MD mechanism, take care the handling of the magnetic head. Do not broken by hanging other parts.

2. Confirm the pickup is inside position, if remove the pick up at the outside magnetic head hang the other parts.

7. Slide and remove the bracket, then remove the MD traverse mechanism.

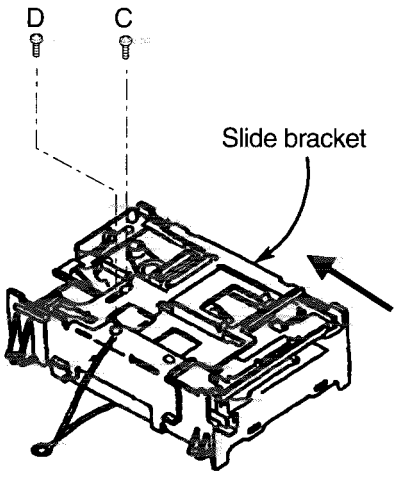


Fig.3

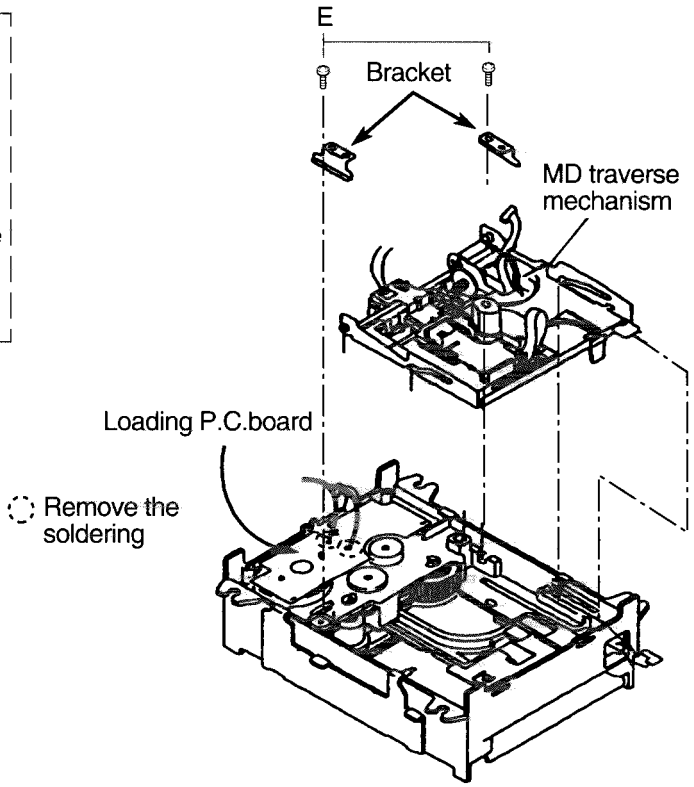


Fig.4

■ Caution of reassemble MD traverse mechanism

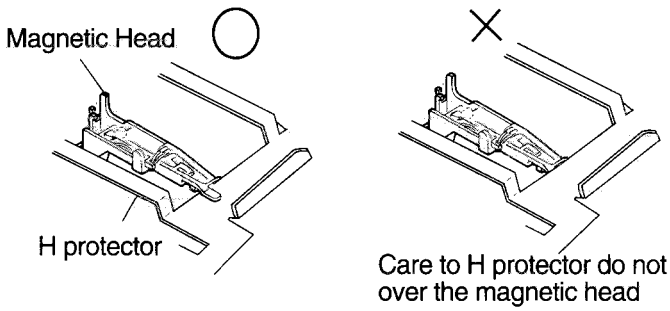


Fig.5

■Removing the magnetic head

(see Fig.6 and 7)

1. Remove the MD traverse mechanism.
2. Remove the two screws F attaching the H. joint.
3. Extract the magnetic head, in this time do not touch the lens.
4. After removing the spring, moves in the direction of arrow "b" with the magnetic head unit has been lowered in the direction of arrow "c", and the magnetic head unit is removed from the joint folder.

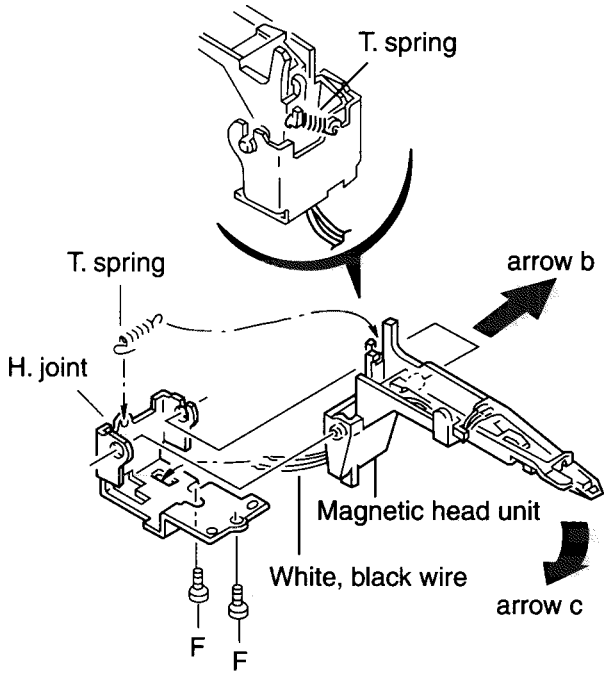


Fig.6

■Removing the MD pick up (see Fig.6 to 8)

1. Remove the MD traverse mechanism.
2. Remove the two screws F attach the magnetic head unit. (see Fig.6)
3. Remove the hook, then remove the pick up with the guide shaft to the arrow way.

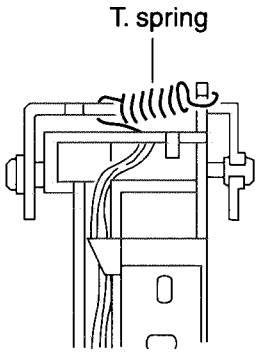


Fig.7

■Reassembly the MD pick up (see Fig.8)

1. Attach the part of d of the pick up to the guide then attach the guide shaft.
2. Confirm the hook fixing the guide shaft.

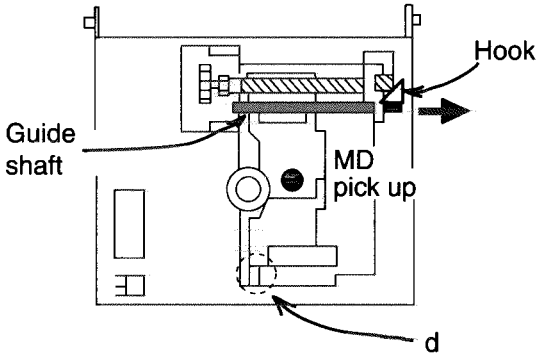


Fig.8

■Removing the feed motor assembly

(see Fig.9)

1. Remove the traverse mechanism.
2. Turnover the MD traverse mechanism, then remove the soldering two wires attach the P.C.board. (White and black wires)
3. Remove the one screw G attach the motor bracket.
4. Remove the hook "e" from the chassis base, then remove the feed motor assembly.

■Removing the spindle motor assembly

(see Fig.6 to 9)

1. Remove the MD traverse mechanism.
2. Pull up the tern table assembly.
3. Turnover the MD traverse mechanism, then remove the soldering two wires attach the P.C. board. (Red and black wires)
4. Remove the two screws H attach the spindle motor.

[CAUTION]

When change the spindle motor, tarn table assembly should change together. Tarn table assembly can not reuse.

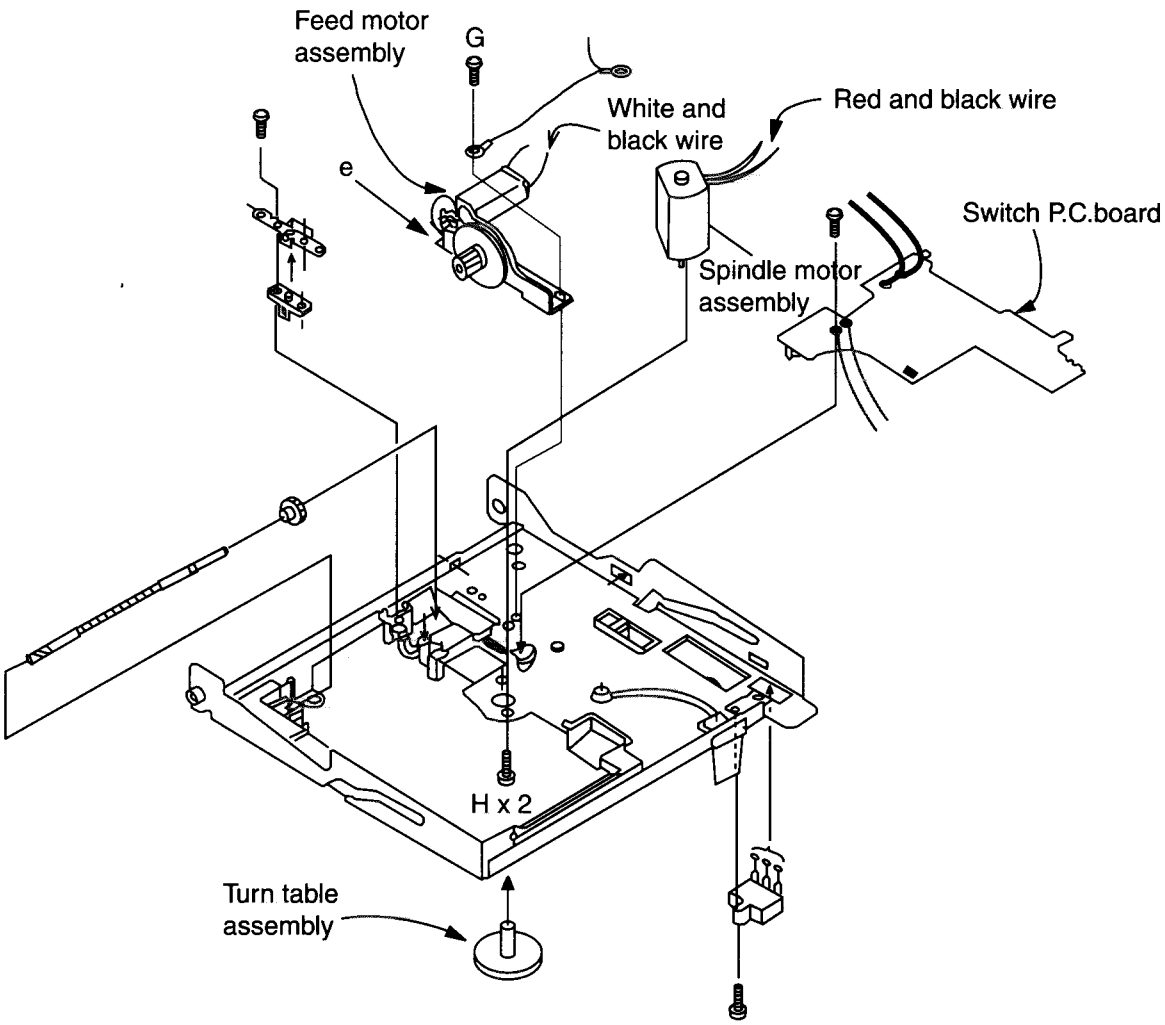


Fig.9

■Removing the slide bracket (see Fig.10)

1. Remove the MD mechanism
2. Remove the two screws I attaching the slide bracket (L).
3. Remove the slide bracket (L), then remove the slide bracket (R).

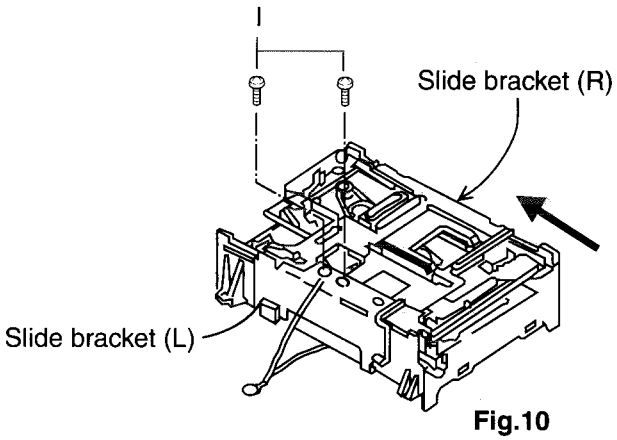


Fig.10

■Removing the car. base assembly (see Fig.11 to 12)

1. Remove the MD mechanism assembly, then remove the MD servo P.C.board.
2. Remove the slide bracket (L) and slide bracket (R).
3. Remove the three screws J attaching the car. base assembly, then remove the car. base assembly and lack.

[CAUTION]
When reassembly the car. base assembly and lack, according Fig.11 and 12.

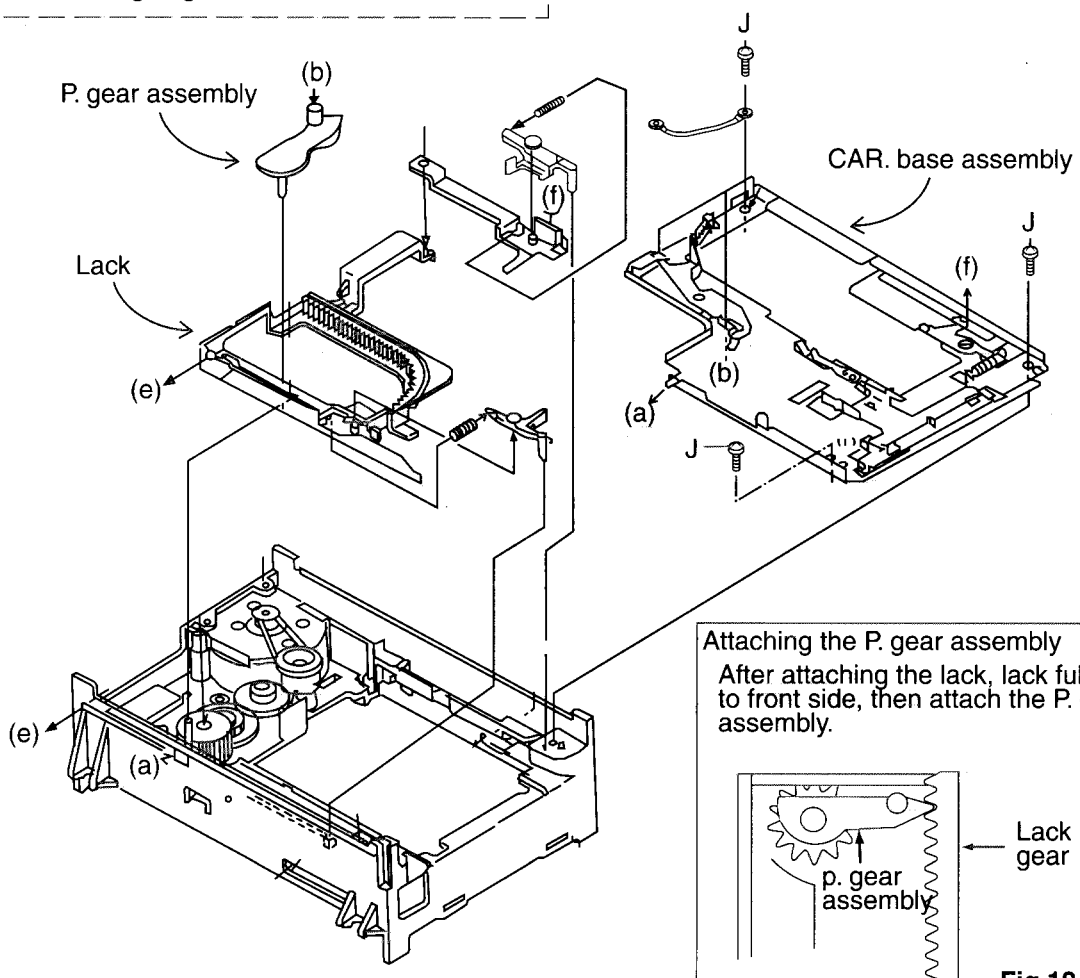


Fig.11

Attaching the P. gear assembly
After attaching the lack, lack full shift to front side, then attach the P. gear assembly.

Fig.12

■Removing the loading base assembly

(see Fig.13)

1. Remove the car. base assembly and lack.
2. Remove the two screws K attaching the loading motor.
3. Remove the soldering loading motor assembly on the loading P.C.board.

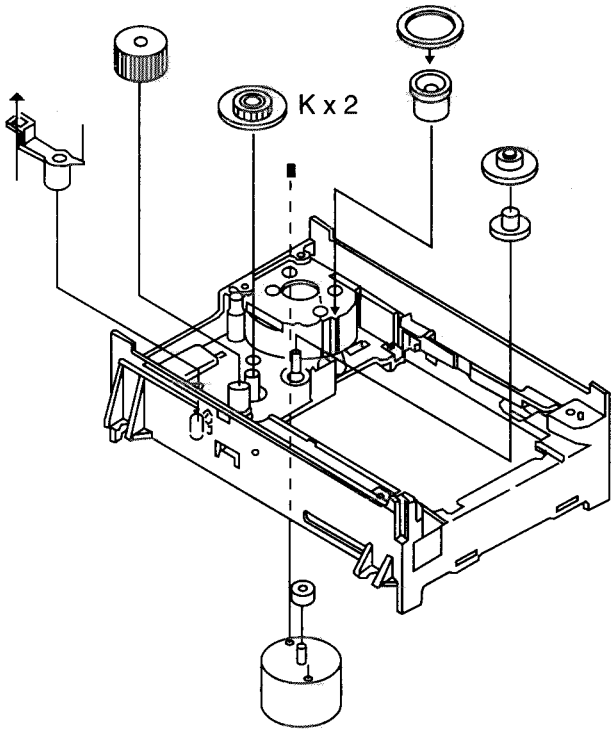
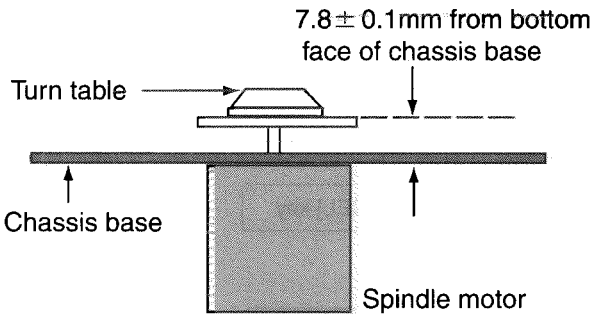


Fig.13

■Attaching the parts for each motors

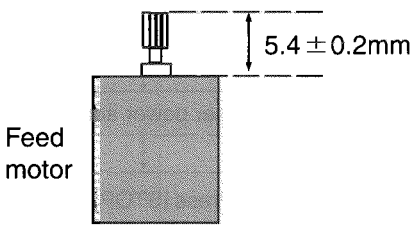
(see Fig.14 to 16)

1. Attach the turn table assembly to spindle motor is according Fig.15.
2. Attach the gear to feed motor is according Fig.16.
3. Attach the pulley to loading motor is according Fig.17.



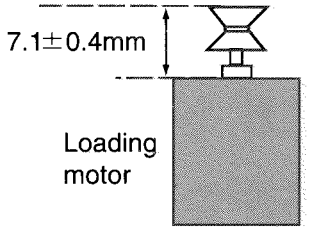
Attachment of turn table

Fig.14



Attachment of gear

Fig.15



Attachment of pulley

Fig.16

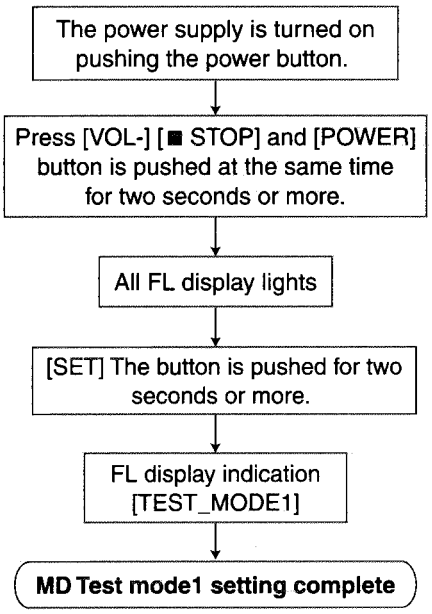
Adjustment method

*** Remote control uses the remote control appended to UX-G6.**

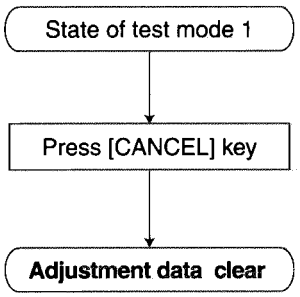
*** Buttons used by this item are all buttons of remote control.**

*** Please make the function of the main body MD pushing the MD play key to remote control.**

Setting of TEST MODE 1

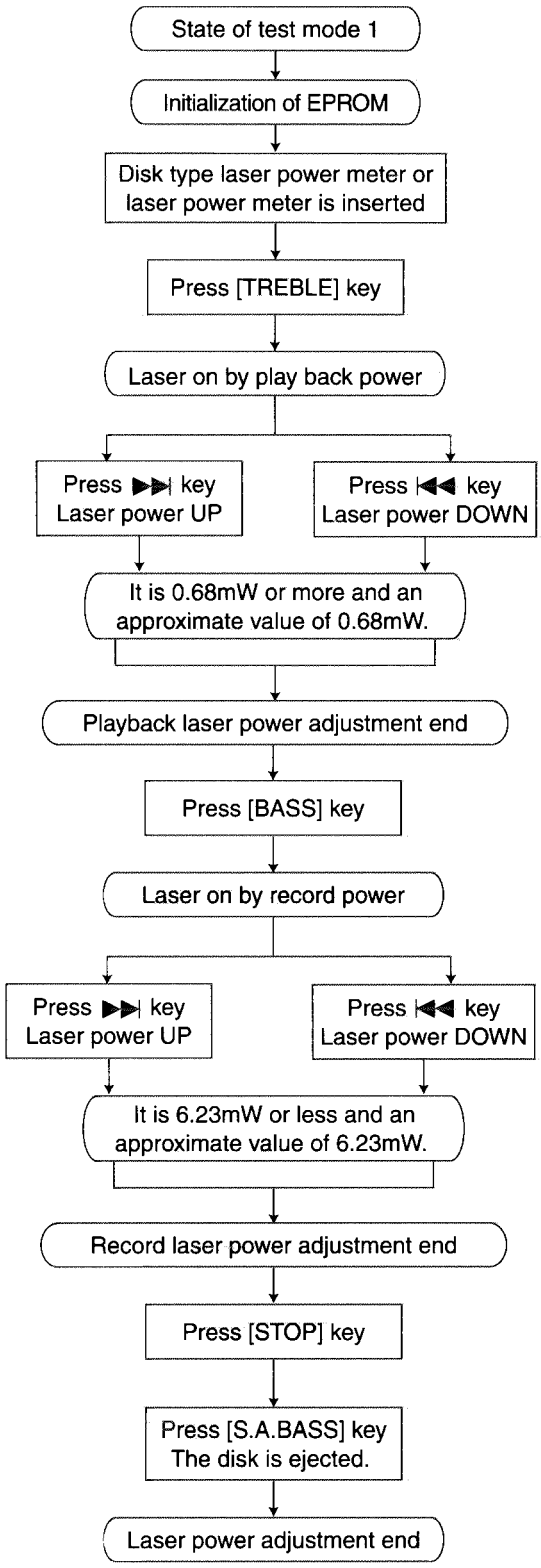


1. Initialization of EPROM



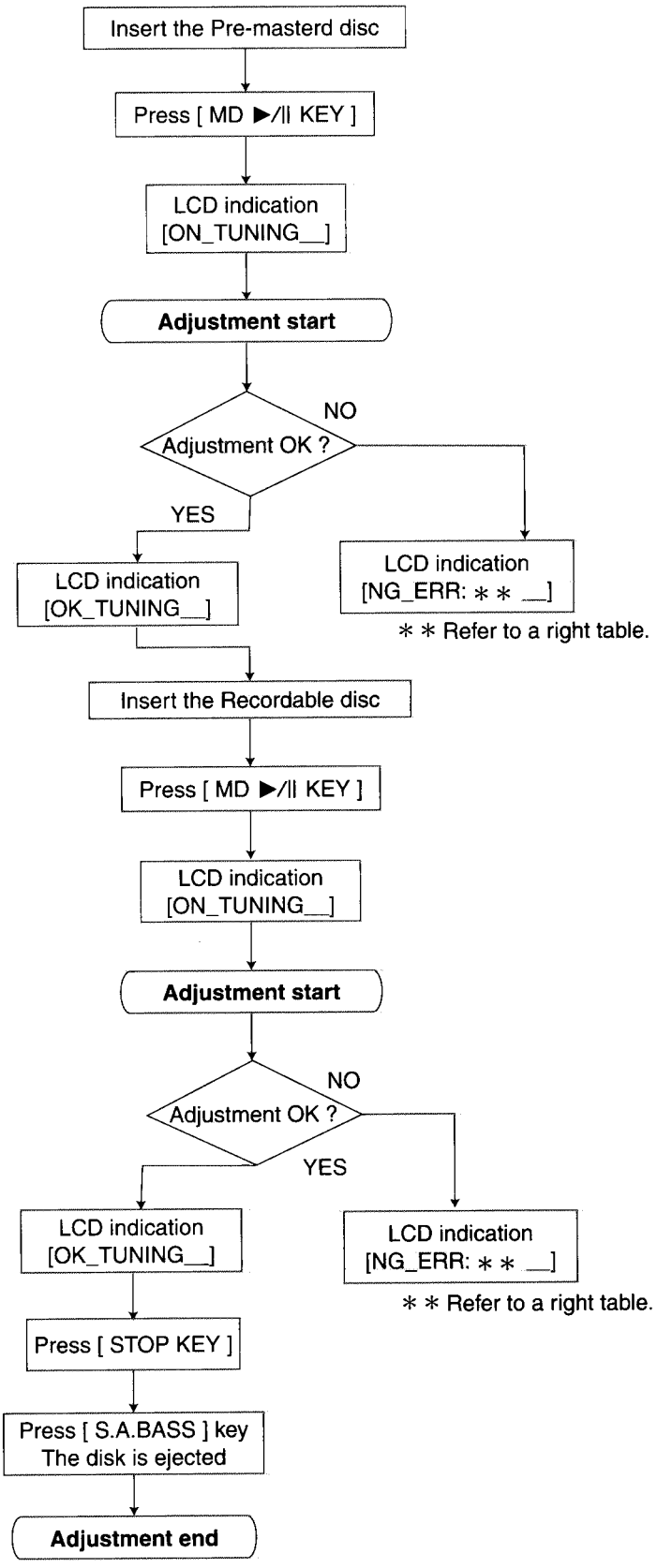
2. Laser power adjustment

Please adjust the laser power after initializing EPROM.



3.Disc adjustment

Caution : After the laser power is adjusted, executes



Code	Adjustment NG section
00	Self adjustment incompleteness end
01	Rest SW detection
02	Focus . on
03	PIT part EF balance Tracking offset adjustment
04	PIT part ABCD level (IV resistance) adjustment
05	Part PIT focus. servo AGC
06	Part PIT tracking servo AGC
07	Part PIT focus. bias adjustment
08	GRV part EF balance Tracking offset adjustment
09	GRV part ABCD level (IV resistance) adjustment
0A	Part GRV focus. servo AGC
0B	Part GRV tracking. servo AGC
0C	Part GRV focus. bias adjustment
0D	Room temperature measurement
0E	EPROM writing
FF	Normal termination of self adjustment

4. Independent operation mode

Sets in the test mode . The remote control mode is made MD .
The operation is shifted by transmitting the following codes.

[SLEEP]	(A303)	: Focus search	[_FOCUS_SEARCH]
[6 KEY]	(BFA6) or (AFE6)	: Pit rough servo	[_P.R.SERVO_]
[7 KEY]	(BFA7) or (AFE7)	: Groove rough servo	[_GR.R.SERVO_]
[8 KEY]	(BFA8) or (AFE8)	: Tracking on	[_TRACKING_ON_]
[9 KEY]	(BFA9) or (AFE9)	: Tracking off	[_TRACKING_OFF]
[STOP KEY]	(BF83) or (AFA2)	: STOP	[_STOP_]
Main unit [EJECT KEY]		: Eject	[_EJECT_]

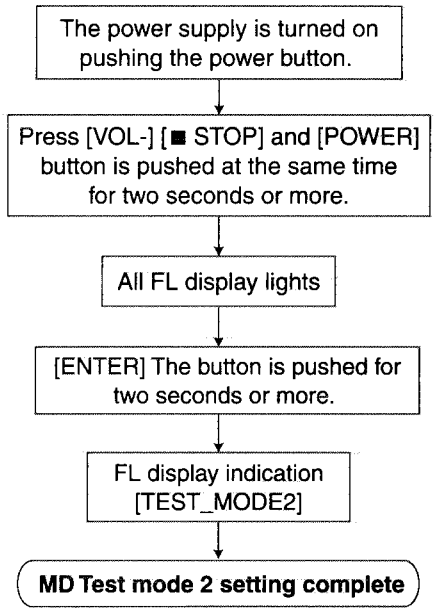
5.Only at the confirmation of the laser power

It is a method of the confirmation without initializing EPROM, and the laser power cannot be adjusted.

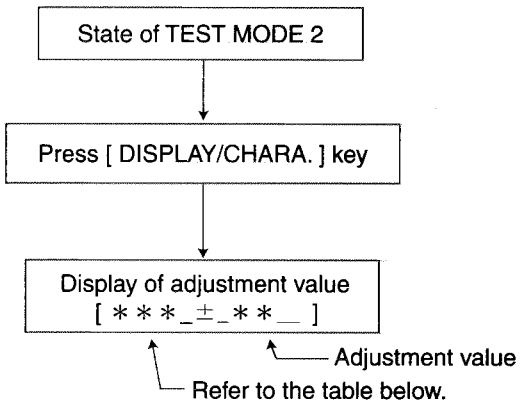
1.State of TEST MODE 1.
2.The laser power meter is inserted without initializing EPROM.
3.Inserts immediately before the disk's being drawn in to the main body when the disk type laser power meter is used at this time, and [TREBLE] or [BASS] button is pushed.
4.The disk is automatically drawn in to the main body when [TREBLE] or [BASS] button is pushed, and emits light by each laser power.

Setting of TEST MODE 2

Test mode 2 is executed according to the undermentioned procedure contingent on becoming test mode 1.

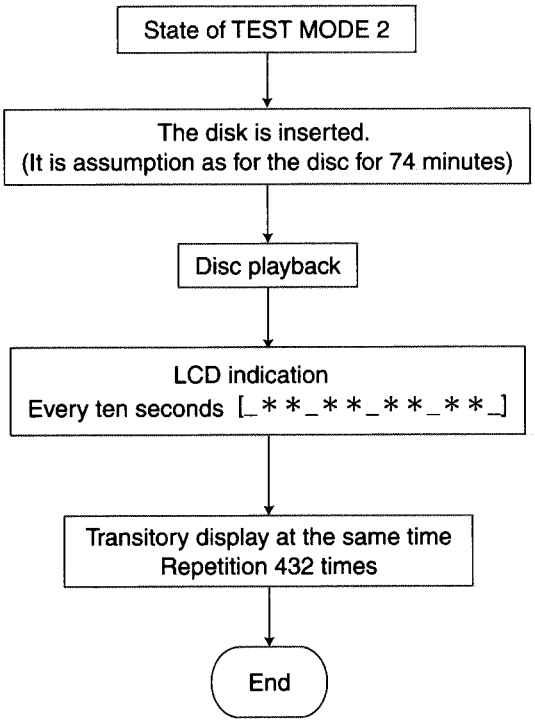


1.Change amount display of adjustment value of pick-up

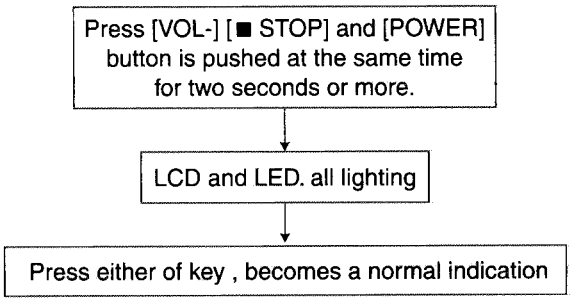


ASG	AS gain adjustment value
TRG	Tracking gain adjustment value
TRB	Tracking balance adjustment value
FOB	Focus balance adjustment value
FGR	Focus loop gain adjustment value
FEXP	↓
FGC	
FG	Temporary value of focus gain
TGR	Tracking loop gain adjustment value
TEXP	Tracking gain index
TGC	Tracking loop gain adjustment value
TG	Temporary value of tracking gain

2. Display of error rate



Test mode
(all lighting and clock fast-forwarding modes)

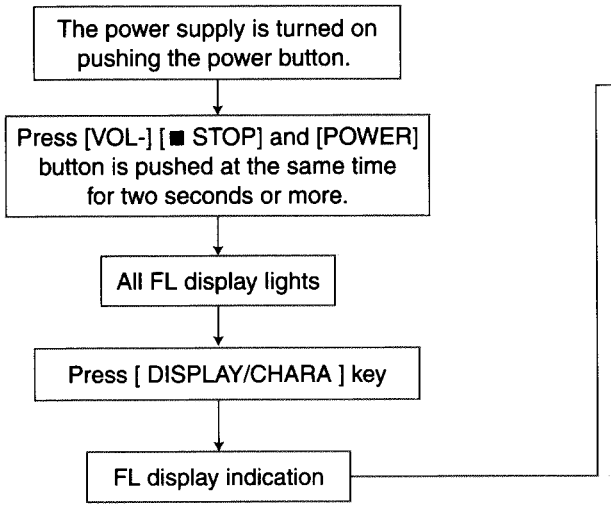


CLOCK / SLEEP TIMER Fast forward

At test mode condition .clock count up is 1 minute to 1 second.
Only assurance the [CLOCK] and [SLEEP TIMER] operation, [DAILY TIMER] and [REC TIMER] operation should not done at this test mode.

Display of error career

The maximum record number is ten.
Ten or more is deleted in old the order.



Example

01
DISC_ERROR

02
D_PROTECTED

03
_NO_ERROR

10
_NO_ERROR → Former display

Every time the
[DISPLAY/CHARA]
key is pushed

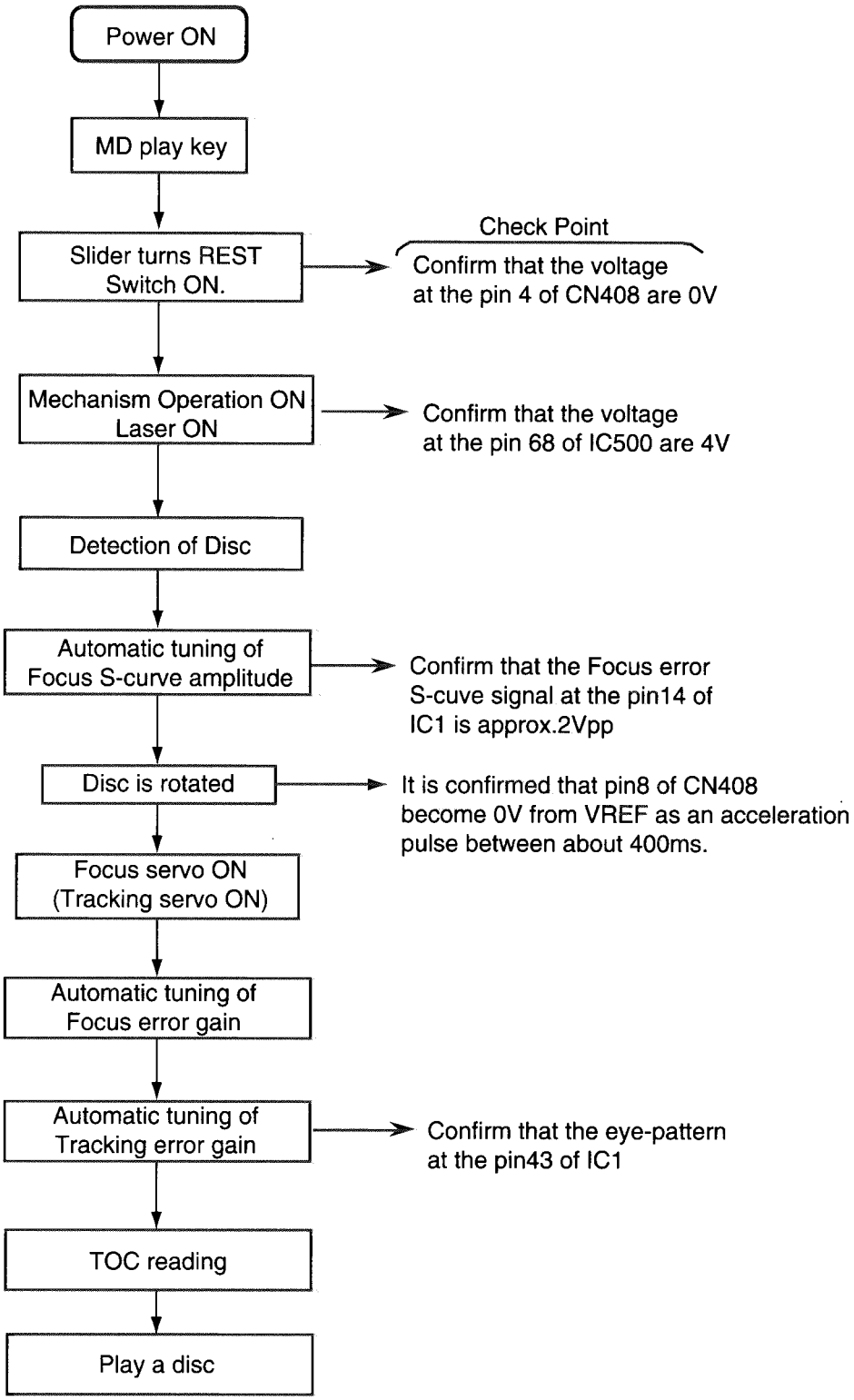
Deletion of record

When the [CANCEL] button is pushed in the test mode for two seconds or more, the record is deleted.

Clearness of test mode

Press [POWER] button or
Press [VOL-] [■STOP] and [POWER] button

Flow of functional operation unitl TOC read



Maintenance of laser pickup

1. Cleaning of pickup lens

(1) Prior to changing the pickup, clean the pickup lens.

(2) For cleaning the lens, use the following cotton swab after mearsing it in alcohol.

Product No. JCB-B4; Manufacturer;Nippon Cotton Swab

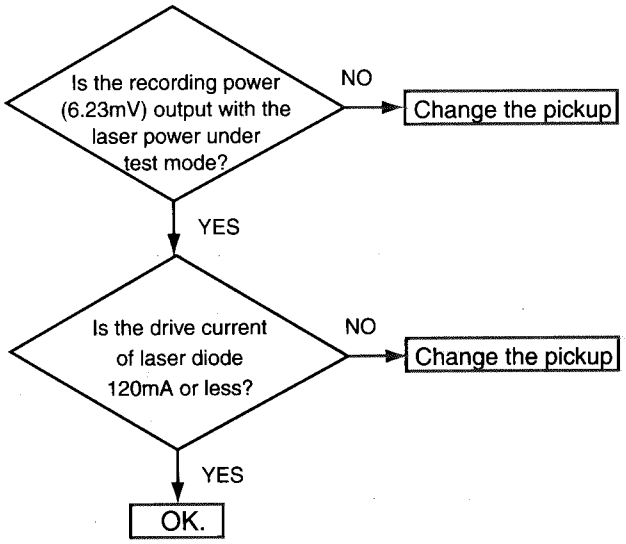
2. Confirmation of the service life of laser diode when the service life of the laser diode has been exhausted, the following symptoms will appear.

(1) Recording will become impossible.

(2) The RF output (EFM output and eye pattern amplitude) will become lower.

(3) The drive current required for light emitting of laser diode will be increased.

Confirm the service life according to the following flow chart:

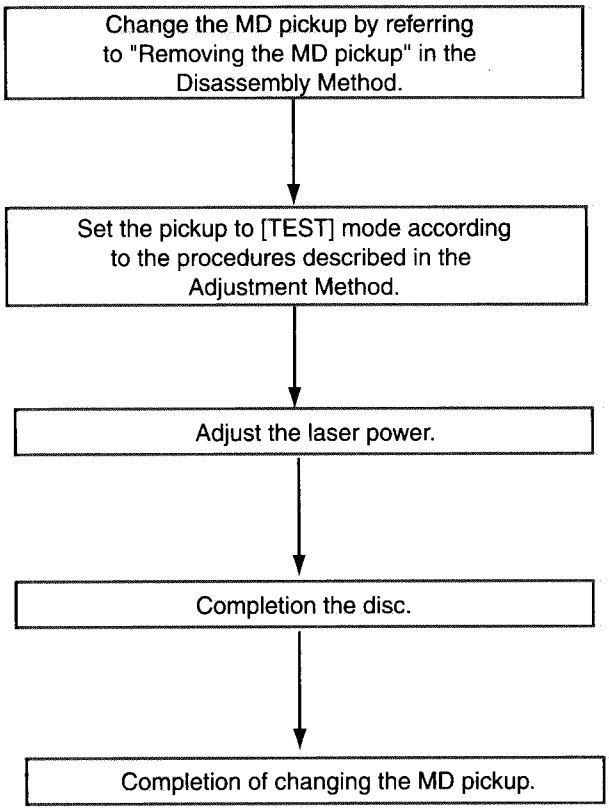


3. Method of measuring the drive current of laser diode

When the voltage measured at TP2 and Q1(collector side) of the MD servo P.C. board have become 55mV or over, the service life of the laser diode is judged to have been exhausted.

[Caution]
Take utmost care in handling the MD pickup.
Refer to 1-4 page.

Replacement of laser pickup



*Since this system is designed to perform magnetic recording, the laser power ten times or over of the conventional MD player will be output. Therefore, be sure to perform not only adjustment and operation of this system so carefully as not to directly look at the laser beam or touch on the body.

4. Semi-solid state resistors on the APC P.C. board

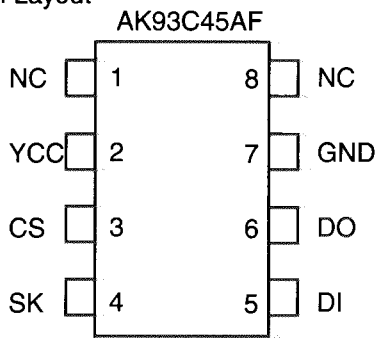
The semi-solid state resistor on the APC P.C.boardattached to the pickup is used for adjusting the laserpower. Since these resistor should be adjusted inpair according to the characteristics of the opticalblock, be sure not to touch on the resistors.

Since the service life of the laser diode will beexhausted when the laser power is low, it isnecessary to change the pickup. Meanwhile, do notpickup. Otherwise, the pickup will be damaged dueto over current.

Description of major ICs

■AK93C45AF-W (IC590) : CMOS EEPROM

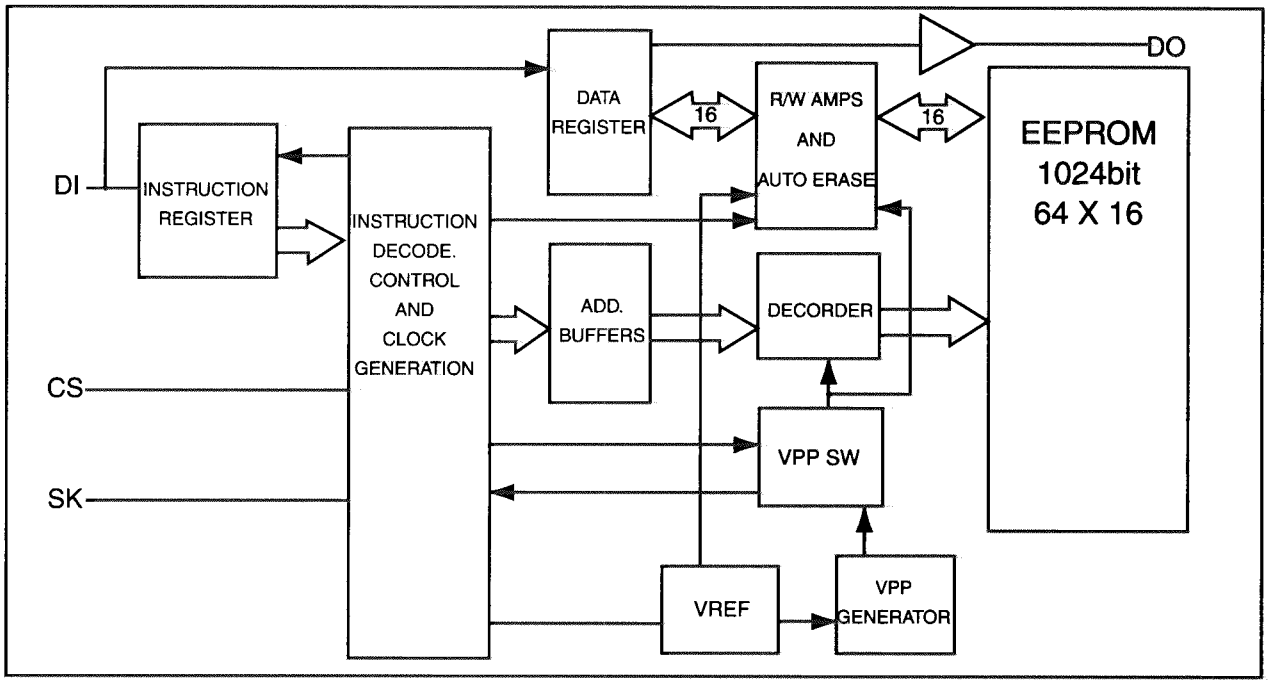
1.Pin Layout



2.Pin Functions

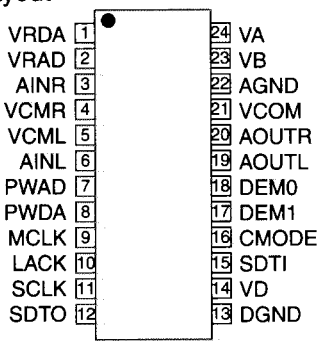
Symbol	Function
CS	Chip Select
SK	Serial Clock Input
DI	Serial Data Input
DO	Serial Data Output
Vcc	Power Supply
GND	Ground
NC	Non connection

3.Block Daiagram

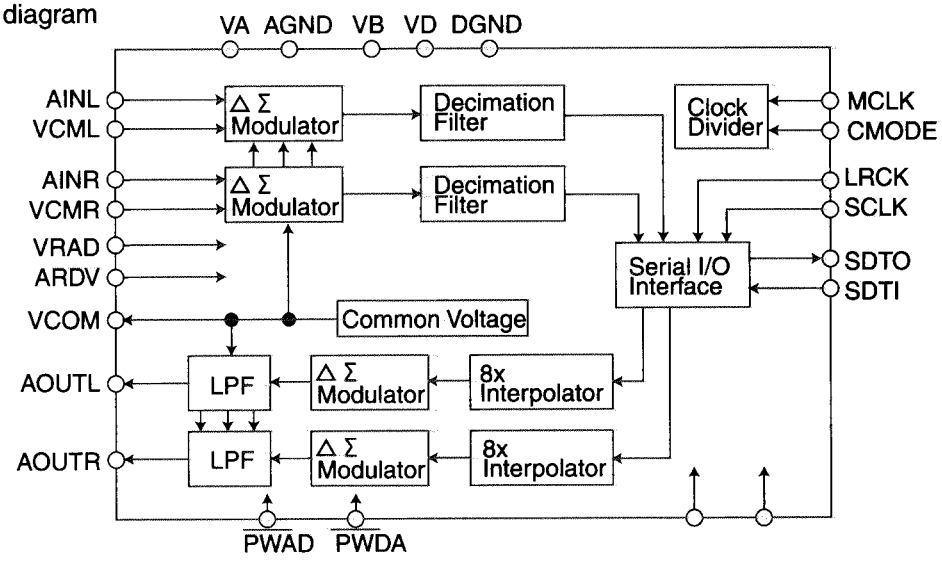


■AK4519VF-X (IC480) : A/D D/A Converter

1.Pin layout



2.Block diagram

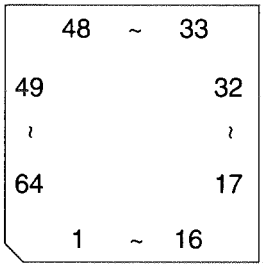


3.Pin Function

Pin NO.	Symbol	I/O	Function
1	VRDA	I	Voltage Reference Input Pin for DAC, VA
2	VRAD	I	Voltage Reference Input Pin for ADC, VA
3	AINR	I	RCH Analog Input Pin
4	VCMR	O	Rch Common Voltage Output Pin, 0.45xVA
5	VCML	O	Lch Common Voltage Output Pin, 0.45xVA
6	AINL	I	Lch Analog Input Pin
7	PWAD	I	ADC Power-Down Mode Pin "L":Power Down
8	PWDA	I	DAC Power-Down Mode Pin "L":Power Down
9	MCLK	I	Master Clock Input Pin
10	LRCK	I	Input/Output Channel Clock Pin
11	SCLK	I	Audio Serial Data Clock Pin
12	SDTO	O	Audio Serial Data Output Pin
13	DGND	-	Digital Ground Pin
14	VD	-	Digital Power Supply Pin
15	SDTI	I	Audio Serial Data Input Pin
16	CMODE	I	Master Clock Select Pin
17	DEM1	I	De-emphasis Frequency Select Pin
18	DEM0	I	De-emphasis Frequensy Select Pin
19	AOUTL	O	Lch Analog Output Pin
20	AOUTR	O	Rch Analog Output Pin
21	VCOM	O	Common Voltage Output Pin, 0.45xVA
22	AGND	-	Analog Ground Pin
23	VB	-	Substrate Pin
24	VA	-	Analog Power Supply Pin

■AN8771NFH (IC1) : MD RF & Servo

1.Pin layout

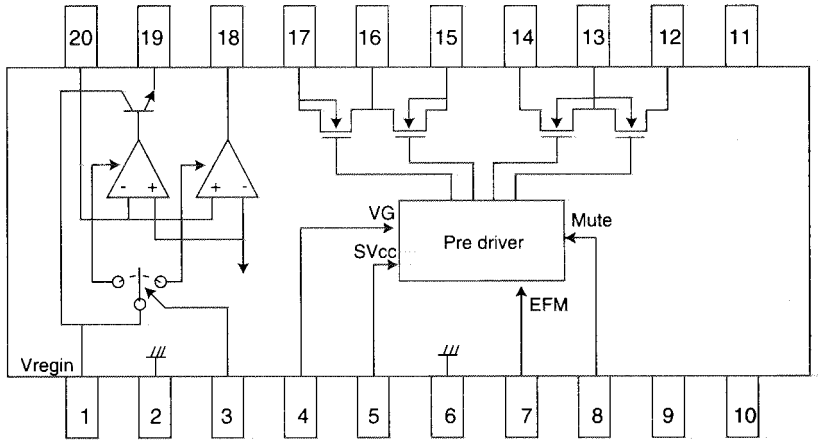


2.Pin function

Pin NO.	Symbol	Function	Pin NO.	Symbol	Function
1	REF0	APC reference voltage buffer output	33	RFSWHL	Reflectivity select signal input terminal
2	GND3	APC circuit ground terminal	34	RFSWPG	Pit/globe select signal input terminal
3	APCREF	APC reference voltage input terminal	35	NREC	Record/playback select signal input terminal
4	TEMPIN+	Temperature sensor amplifier + input terminal	36	NRFSTBY	Standby control signal input terminal
5	TEMPIN-	Temperature sensor amplifier - input terminal	37	VCC2	Data slice circuit Vcc terminal
6	TEMP	Temperature sensor amplifier output terminal	38	PEFMS	Data slice output terminal
7	TOFS	Tracking off set adjustment terminal	39	GND2	Data slice circuit ground terminal
8	TBAL	Tracking balance adjustment terminal	40	PEFM	Data slice level set terminal
9	TE	Tracking error signal output terminal	41	EFMIND	Data slice signal input terminal
10	NC	Non connection	42	EFMINS	EFM system detection input terminal
11	CCRS	Truck crossing circuit capacitor connection terminal	43	OUTRF	EFM output terminal
12	TRCRS	Truck crossing output terminal	44	CRFAGC	RF AGC capacitor connection terminal
13	FBAL	Focus balance adjustment terminal	45	EQADJ	EQ set terminal
14	FE	Focus error signal output terminal	46	EQIN	EQ input terminal
15	TGAIN	TE amplifier gain adjustment terminal	47	ARFO	RF amplifier output terminal
16	FOFS	Focus offset adjustment terminal	48	SVREF	Reference signal input terminal
17	AS	Main beam optical amount harmony signal output terminal	49	VREF	Reference signal output terminal
18	ASOFS	AS offset adjustment terminal	50	RF1	RF1 signal input terminal
19	ASGAIN	Main beam system amp gain adjustment terminal	51	RF2	RF2 signal input terminal
20	MON3T	3T envelope output terminal	52	SWMS	Pit RF amplifier polarity set terminal
21	CEA	Capacitor connection terminal for 3T envelope detection	53	B	Main beam B signal input terminal
22	GND4	FE/TE system ground terminal	54	A	Main beam A signal input terminal
23	BD0	AS dropout detection signal output terminal	55	D	Main beam D signal input terminal
24	CBDOG	BDO detection capacitor connection terminal	56	C	Main beam C signal input terminal
25	OFTR	Off-track signal output	57	F	Side beam F signal input terminal
26	CBDOP	RFBDO detection capacitor connection terminal	58	E	Side beam E signal input terminal
27	OFTIN	Off-track error detection signal input terminal	59	VCC3	APC circuit Vcc terminal
28	OFTO	Detection signal output terminal for off-track error	60	LDON	LD amplifier ON/OFF control signal input terminal
29	ADIP	ADIP FM signal output terminal	61	LD0	LD amplifier output terminal
30	GND1	Ground terminal	62	APCPD+	Terminal of detection of optical amount of photo diode
31	NRFDET	RF detection signal output terminal	63	APCPD-	PD polarity reversing current input terminal
32	VCC1	Vcc terminal	64	EFIN	APC amplifier reference voltage input terminal

■BD7910FV (IC450) : Pre driver

1.Block Diagram

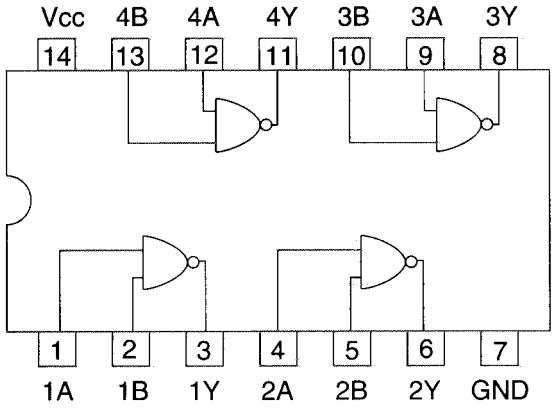


2.Pin Function

Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	Vreg IN	I	Regulator input and regulator power supply	11	NC	-	Non connect
				12	VOD2	O	Sync.output (Lower power MOS,drain)
2	Reg GN	-	Regulator GND	13	VSS	-	"H"bridge GND (Lower power MOS,source)
3	NC	-	Non connect	14	VOD1	O	Sync.output (Lower power MOS,drain)
4	VG	I	Voltage input for power MOS drive	15	VOS1	O	Source output (Upper power MOS,source)
5	SVCC	O	EFM high level output voltage	16	VDD	-	"H" bridge power supply terminal (Upper power MOS,source)
6	PDGND	-	Pre-driver GND				
7	EFM	I	EFM signal input	17	VOS2	O	Source output (Upper power MOS,source)
8	MUTE	I	Mute control (Low active)	18	Reg DRV	O	External PNP drive output for regulator
9	NC	O	Non connect	19	Reg OUT	O	Regulator output (Emitter follower output)
10	NC	O	Non connect	20	Reg NF	-	Regulator feedback terminal

■TC74HC00AP (IC831) : Digital input selector

1.Pin layout / Block diagram

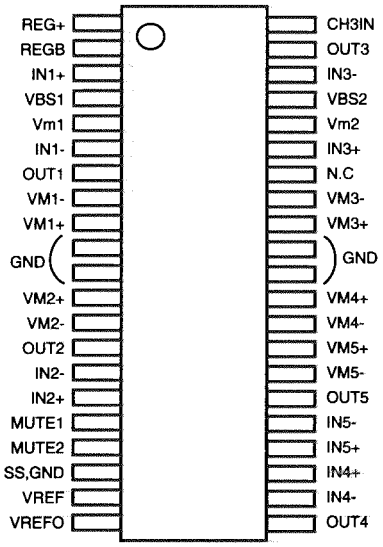


2.The truth value table

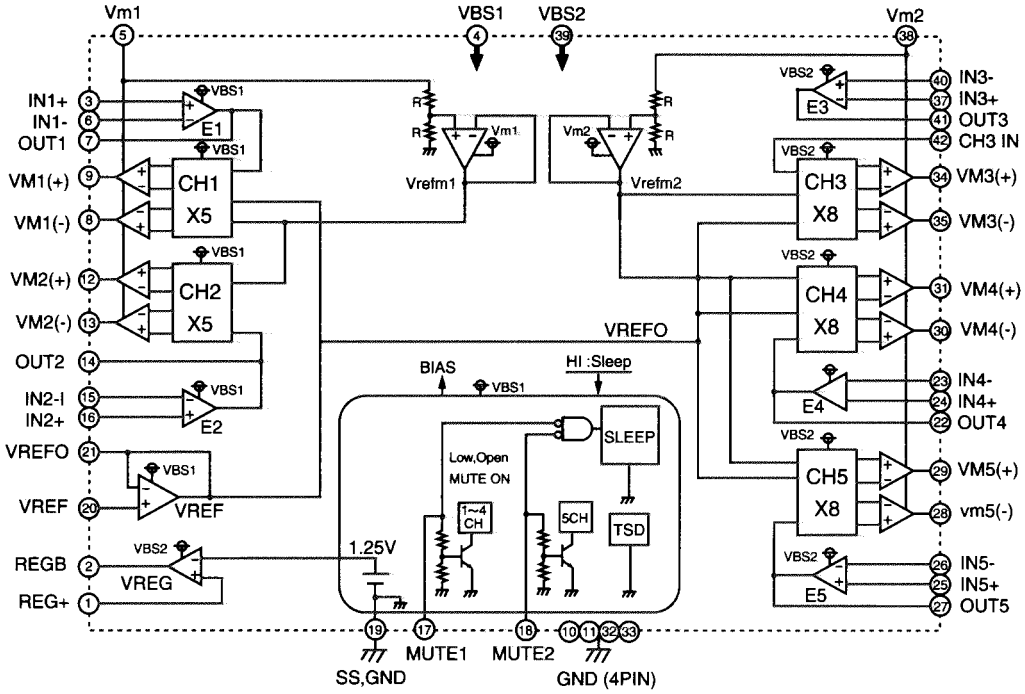
A	B	Y
L	L	H
L	H	H
H	L	H
H	H	L

■M63008FP-X (IC410) : 5CH Actuator driver

1.Pin layout

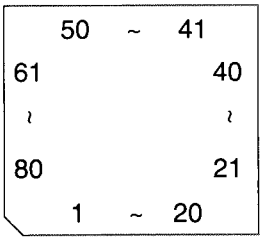


2.Block diagram



■MN101C15FBT (IC500) : MD Control

1.Pin layout

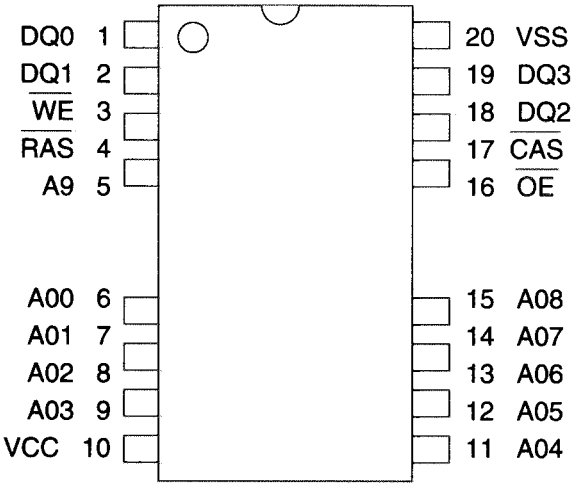


2.Pin function

Pin NO.	Symbol	Function	Pin NO.	Symbol	Function
1	VREF-	Connects to ground	42	BUSY	Non connection
2	TEMP	Detection AD of temperature around disk input	43	ERROR	Non connection
3~9	NC	Non connection	44	EE_P_CS	EEPROM control CS output terminal
10	VREF+	AD standard voltage	45	EE_P_CK	EEPROM control clock output terminal
11	VCC	Microcomputer power supply terminal	46	EE_P_DATA	EEPROM control data input terminal
12	OSC2	Microcomputer OSC clock output terminal	47	NC	Non connection
13	OSC1	Microcomputer OSC clock input terminal	48	MODESE	Single purpose test mode decision input terminal
14	VSS	Microcomputer ground terminal			
15	XI	Microcomputer sub-clock input terminal	49	SET1	External communication method selection input terminal
16	-	Unused			
17	MMOD	Connects to ground	50	SET2	Terminal DOUT output data selection terminal
18	STATUS	Status data output terminal	51	SET3	Digital out selection terminal
19	COMMAND	Command data input terminal	52	LOAD.SW	Disc insertion detection SW input terminal
20	COMCLK	Clock input when synchronous serial is used			
21	SSSW	MD LSI microcomputer command serial data output terminal	53	PLAY.SW	Disc playback position detection SW input terminal
			54	MPROT	DISC deletion prevention protecting detection SW input terminal
22	SSDR	MD LSI microcomputer command serial data input terminal	55	MREF	DISC reflectivity detection SW input terminal
			56	SSTOP	Inside position detection SW input terminal unconnection the in traverse
23	SSCLK	MD LSI microcomputer command serial clock output terminal	57~61	NC	Non connection
24	SELECT0	ADIP signal cutting terminal	62	LOAD0	Tray mechanism OPEN/CLOSE control output terminal
25	RESET	Microcomputer reset input terminal	63	LOAD1	Tray mechanism OPEN/CLOSE control output terminal
26	SELAD	MD LSI microcomputer command address selection output terminal	64	HFON1	HF module control output terminal
			65	PON	HF record/playback select control terminal
27	READYOUT	Output signal for status data output beginning	66	RFSWHL	Reflectivity switch signal output terminal
28	PC	Non connection	67	NRFSTBY	RF standby control signal output terminal
29	KEYOUT0	Non connection	68	LDON	Picking up laser control output terminal
30	KEYOUT1	Non connection	69	MODE	Retry content error 0
31	NC	Non connection	70	AMUTE	Retry content error 1
32	MDISY	Header selector synchronous signal	71	DE0	De-emphasis control output terminal
33	SCYSY	Input terminal SUBQ/ADIP synchronous signal input terminal	72	DACRST	Non connection
			73,74	NC	Non connection
34	CFSYNC	ATRAC signal frame synchronous signal input terminal	75	MMUTE	Driver mute terminal
			76	NC	Magnetic head control output terminal
35~38	NC	Non connection	77	DAPOWER	DA power supply control output terminal
39	FLOCK	Focus servo clock detection test output terminal	78	ADPOWER	AD power supply control output terminal
40	TLOCK	Non connection	79	POWER	Power supply control output terminal
41	SLOCK	Non connection	80	MSPRST	MDLSI reset output terminal

■MN41V4400TT-08 (IC390) : D RAM

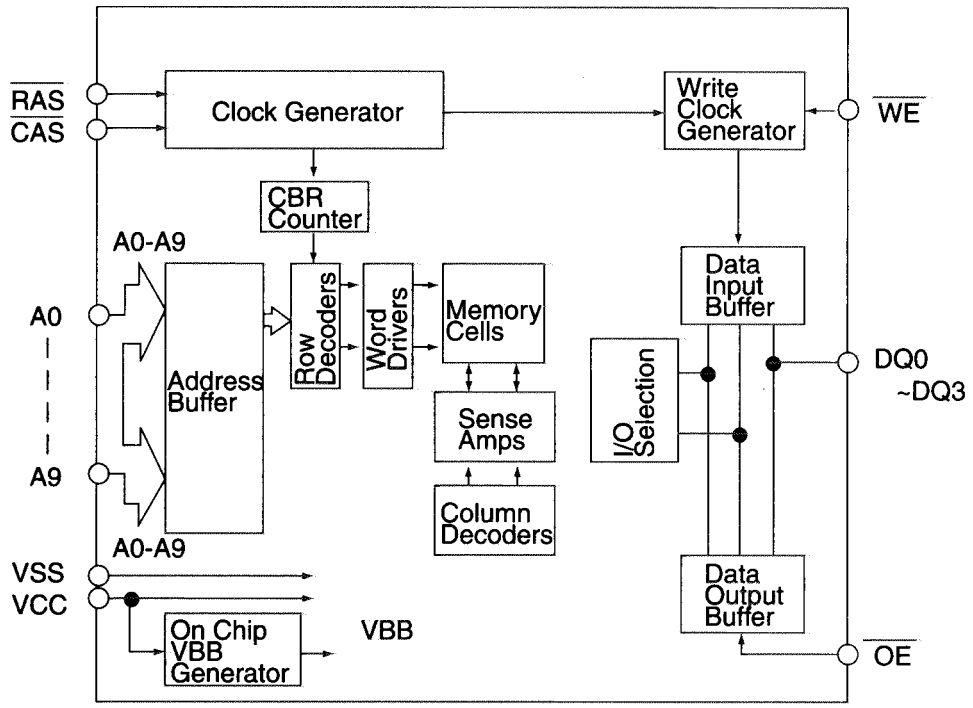
1.Pin Layout



2.Pin Functions

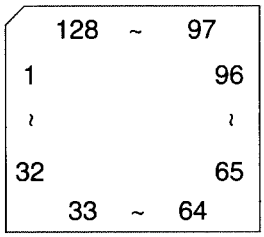
Symbol	Functions
A00-A09	Address Input
$\overline{RAS}$	Low Address strove
$\overline{CAS}$	Column Address Strove
$\overline{WE}$	Write enable Input
$\overline{OE}$	Output Enable Input
DQ0-DQ3	Data IN OUTPUT
VCC	Power Supply (+3.3V)
VSS	Power Supply (0V)
NC	Non Connect

3.Block Diagram

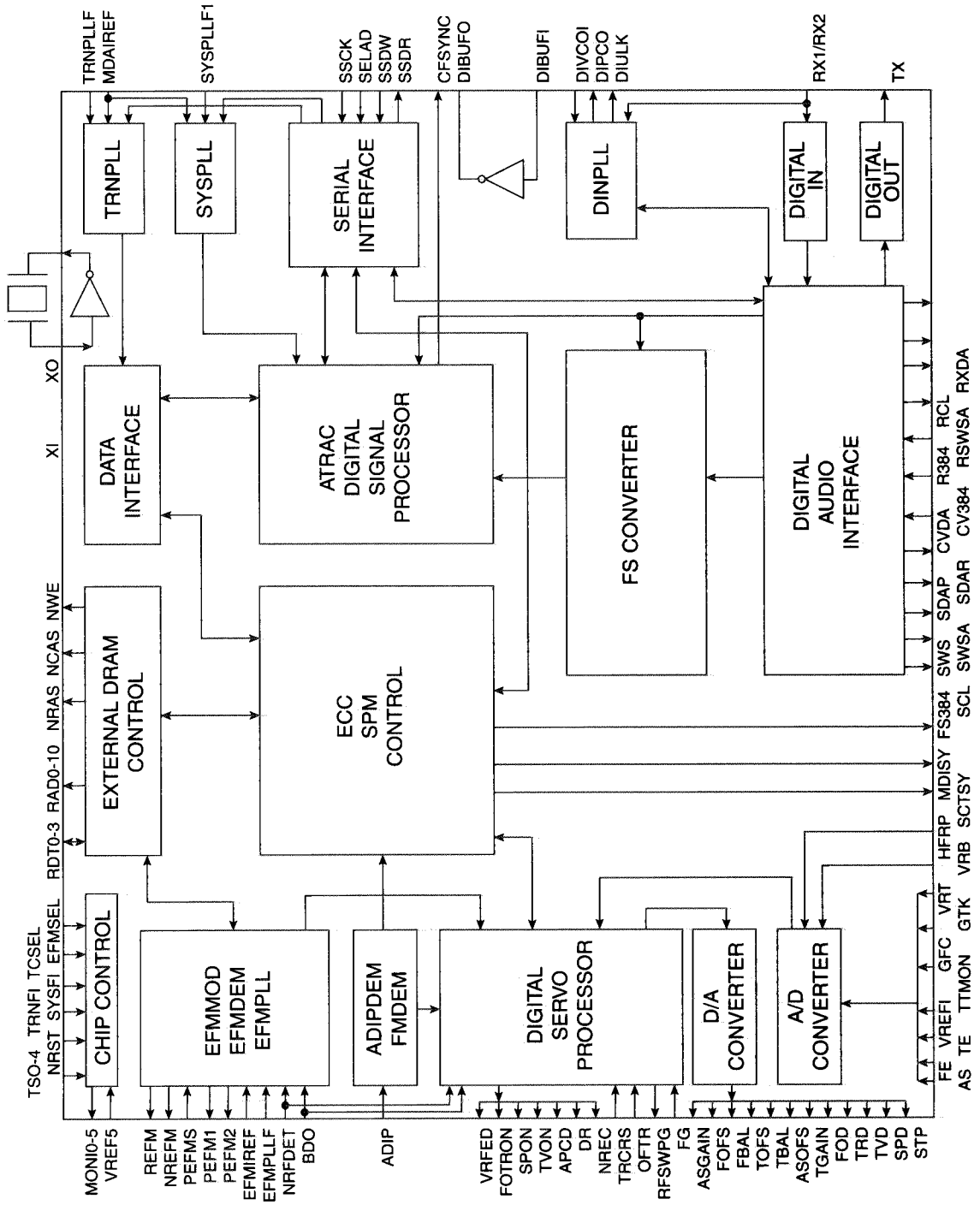


■MN66614R4C (IC3) : Digital servo processor

1.Pin layout



2.Block diagram



3.Pin function(1/3)

Pin NO.	Symbol	Function
1	PEFMS	EFM signal data slice input
2	AVSS2	Analog system Vss
3	AVDD2	Digital system Vss
4	FE	Focus error signal input terminal
5	TE	Tracking error signal input terminal
6	GFC	Focus system acceleration sensor input
7	GTK	Tracking system acceleration sensor input
8	VRT	Servo system AD converter + reference voltage
9	VRB	Servo system AD converter - reference voltage
10	TTMON	EFM signal 3T envelope input
11	AS	Optical amount harmony signal
12	TVD	DC motor traverse signal / stepping motor drive signal
13	SPD	Spindle drive signal
14	STP	Stepping motor drive signal
15	TRD	Tracking drive signal
16	AVSS1	Analog system Vss
17	AVDD1	Analog system Vdd
18	VREF1	Servo system reference voltage input
19	TOFS	TE offset adjustment output
20	ASOFS	AS offset adjustment output
21	FOFS	FE offset adjustment output
22	FBAL	FE balance adjustment output
23	TGAIN	TE gain adjustment output
24	TBAL	TE balance adjustment output
25	ASGAIN	AS gain adjustment output
26	FOD	Focus drive signal
27	AVSS0	Analog system Vss
28	EFMPLLF	EFM signal PLL filter connection terminal
29	EFMIREF	EFM signal PLL current control terminal
30	AVDD0	Analog system Vdd
31	SYSPLLF	System clock generation PLL filter connection terminal
32	TS0	(Reserved Connect to GND)
33	MDAIREF	System clock generation PLL current control terminal
34	TS1	(Reserved Connect to GND)
35	TRNPLLF	Forwarding clock generation PLL filter connection terminal
36	TS2	(Reserved Connect to GND)
37	DIPCO	Digital audio interface PLL phase comparison output
38	DIBUFI	Amplifier input for digital audio interface integration circuit
39	DIBUFO	Amplifier output for digital audio interface integration circuit
40	DIVCOI	Digital audio interface VCO control voltage input
41	TS3	(Reserved Connect to GND)
42	TS4	(Reserved Connect to GND)
43	NRFDET	EFM signal detection signal L:EFM signal
44	BDO	AS dropout signal H:Dropout
45	DVDD0	Digital system Vdd
46	DVSS0	Digital system Vss
47	FOTRON	Drive IC focus/tracking system ON signal
48	TVON	Drive IC traverse system ON signal

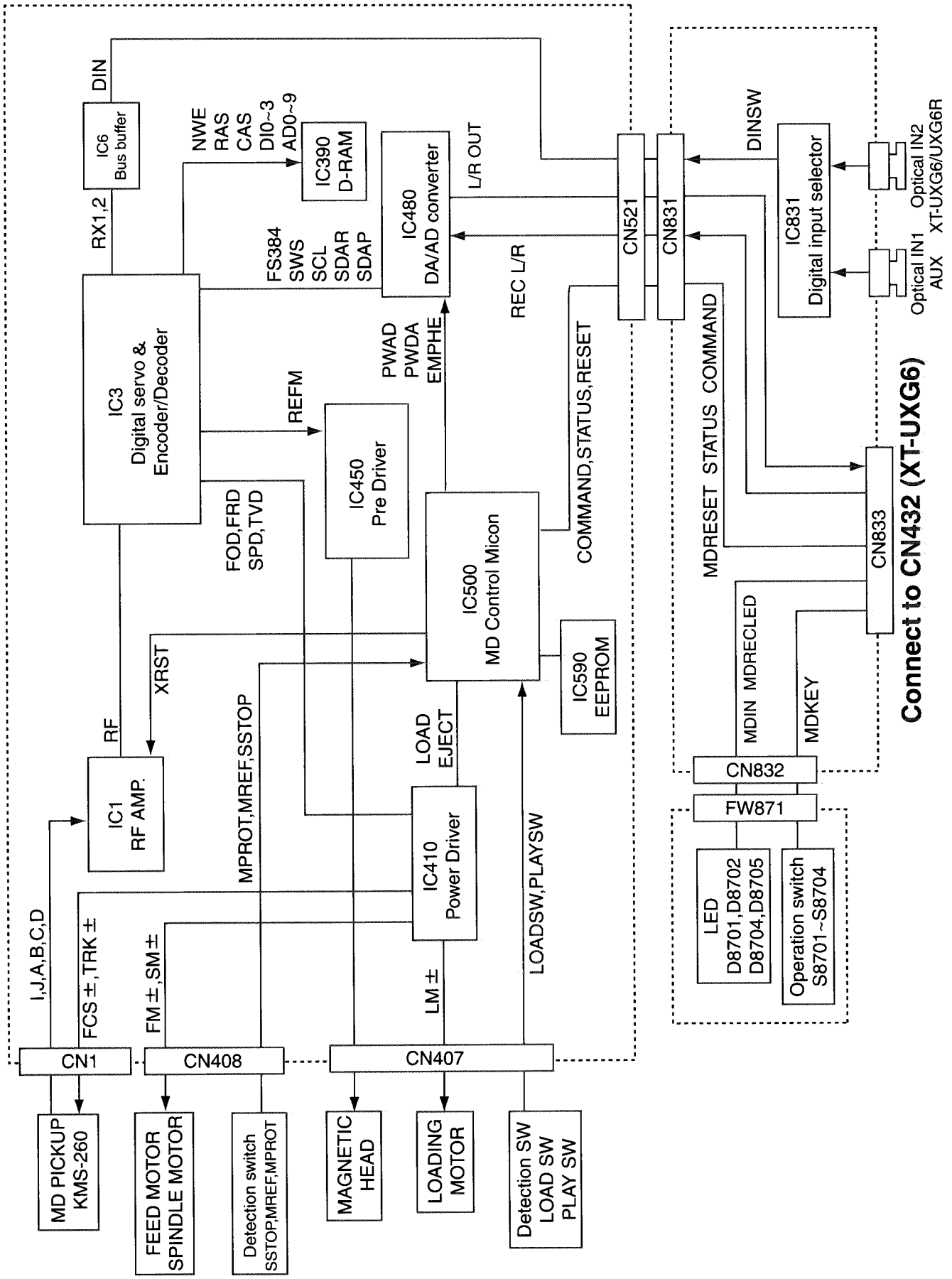
3.Pin function(2/3)

Pin NO.	Symbol	Function
49	SPON	Drive IC spindle system ON signal
50	DR	Driving direction switch signal of drive IC sensor less motor
51	FG	FG input
52	REFM	EFM modulation output (+ output)
53	NREFM	EFM modulation output (- output)
54	HFRP	HF laser module status signal H:Record mode
55	APCD	Laser power set PWM output
56	NREC	Record enable L:enable
57	NRST	Hardware reset L:Reset
58	SELAD	Microcomputer command forwarding address selection signal H:Address
59	SSCK	Microcomputer command forwarding serial transfer clock
60	SSDW	Microcomputer command forwarding serial transfer write data
61	SSDR	Microcomputer command forwarding serial transfer read data
62	MDISY	CDROM sector synchronous signal
63	SCTSY	SUBQ/ADIP synchronous signal
64	CFSYNC	Synchronous ATRAC processing frame output (for monitor)
65	VREF5	Signal level reference voltage
66	DVDD1	Digital system Vdd
67	DVSS1	Digital system Vss
68~74	RAD10~4	DRAM address 10~4
75	DVDD2	Digital system Vdd
76	DVSS2	Digital system Vss
77~80	RAD3~0	DRAM address 3~0
81~84	RDT3~0	DRAM data 3~0
85	NRAS	DRAM low address strove
86	NCAS	DRAM column address strove
87	NWE	DRAM write enable
88	FS384	384Fs output
89	SCL	Bit clock (64Fs) output
90	SWS	Word clock (Fs) of stuff in back output
91	SDAP	Audio data output (D/A connection)
92	SWSA	Former stuff word clock (Fs) output
93	SDAR	Audio data input (A/D connection)
94	TX	Digital audio interface signal output
95	DVDD3	Digital system Vdd
96	RX1	Digital audio interface signal input 1 (C-MOS)
97	RX2	Digital audio interface signal input 2(C-MOS)
98	DVSS3	Digital system Vss
99	DIULK	Digital audio interface PLL unlock H:Unlock
100	RCL	(Reserved . open)
101	RSWSA	(Reserved . open)
102	RXDA	(Reserved . open)
103	R384	(Reserved . open)
104	CVDA	CD-TEXT data forwarding clock input
105	CV384	(Reserved .Connect to GND)
106	DVDD4	Digital system Vdd
107	XI	16.934MHz crystal input
108	XO	16.934MHz crystal output

3.Pin function(3/3)

Pin NO.	Symbol	Function
109	DVSS4	Digital system Vss
110	MONI0	Monitor output 0/CD-TEXT forwarding data
111	MONI1	Monitor output 1
112	MONI2	CD-TEXT Sub-code frame synchronous signal output
113	MONI3	Monitor output 3/CD-TEXT sub-code block synchronous signal output
114	MONI4	(Reserved . open)
115	MONI5	(Reserved . open)
116	TRNFI	Internal forwarding clock generation PLL filter connection terminal
117	SYSFI	System clock generation PLL filter connection terminal
118	TCSEL	(Reserved .Connect to GND)
119	RFSWPG	RFIC pit/group setting H:Pit
120	TRCRS	Truck crossing signal
121	OFTR	Off-track signal H:Off-track
122	DVDD5	Digital system Vdd
123	ADIP	ADIP FM signal 21.6±0.98kHz.100mVpp or more
124	DVSS5	Digital system Vss
125	VREFD	Reference voltage PWM output/drive IC clock
126	EFMSEL	(Reserved .Connect to GND)
127	PEFM1	Loop filter output 1 for data slice
128	PEFM2	Loop filter output 2 for data slice

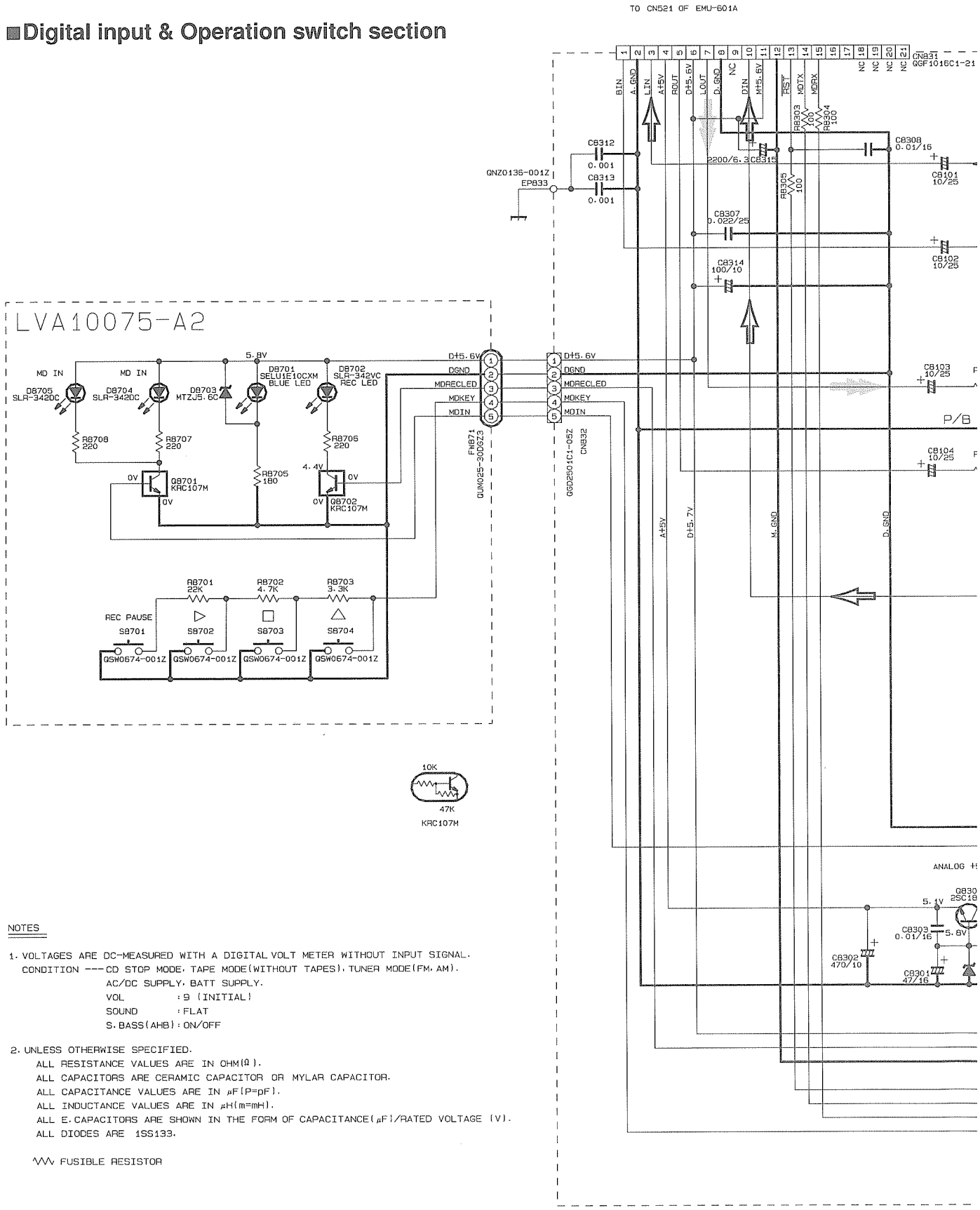
Block diagram



<< M E M O >>

Standard schematic diagrams

■Digital input & Operation switch section

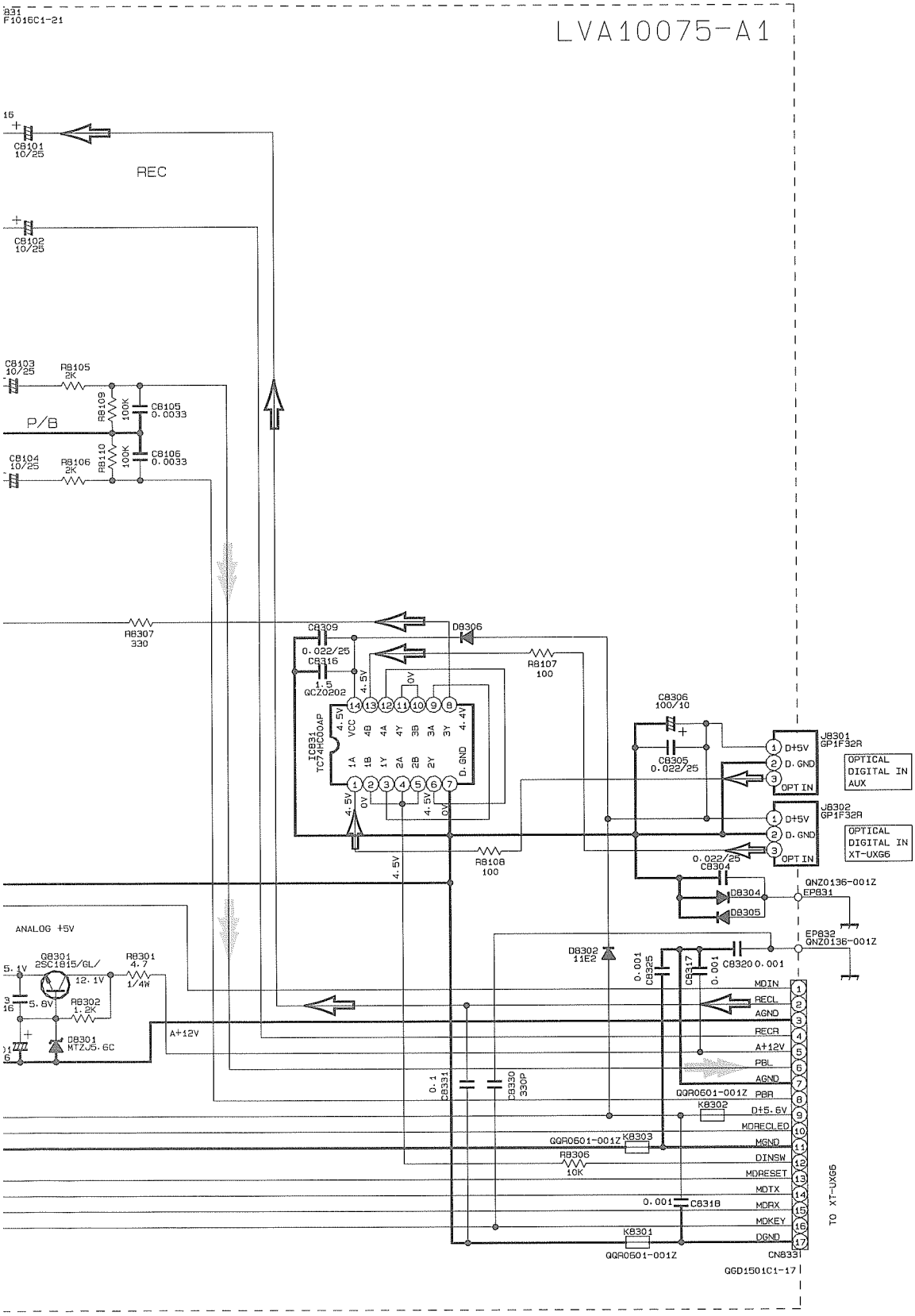


NOTES

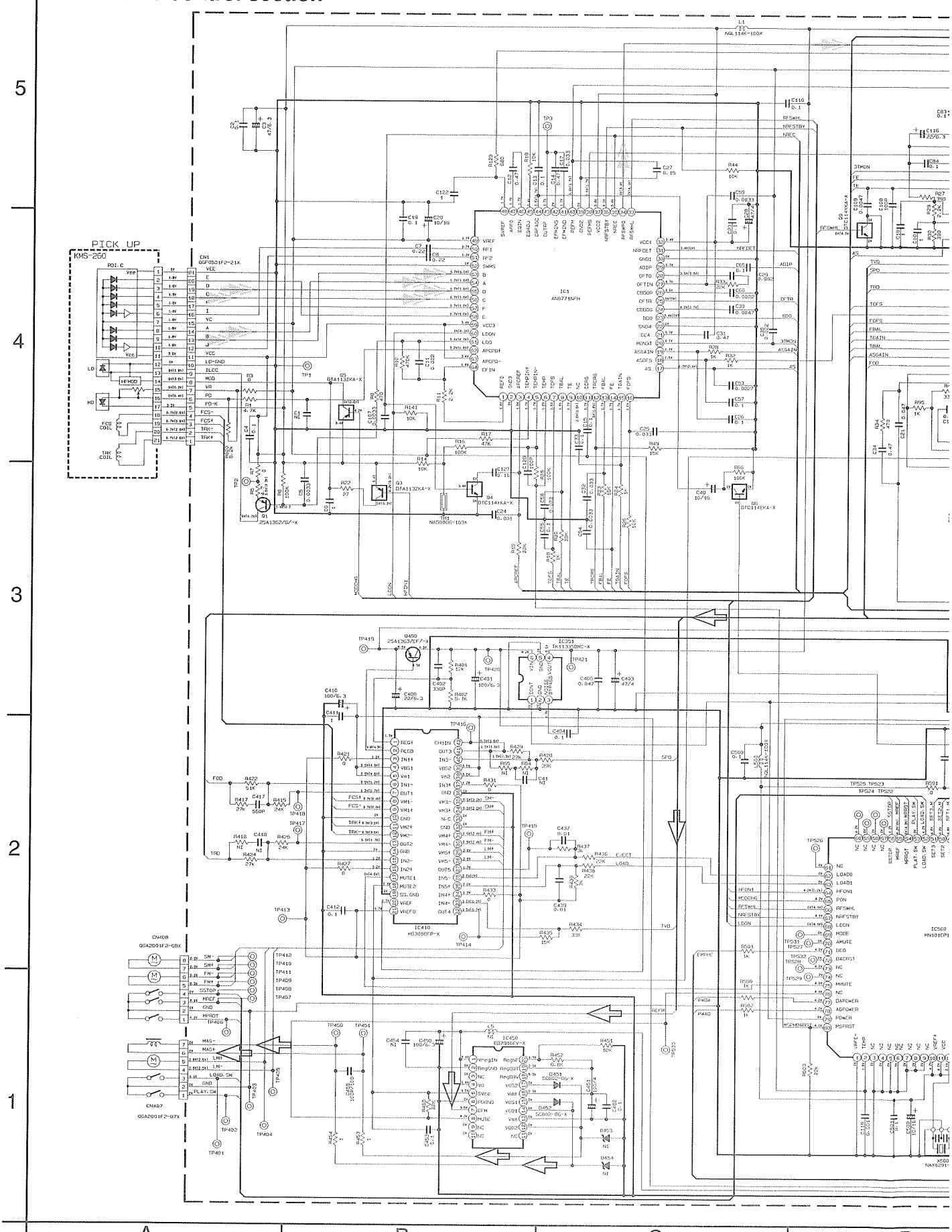
1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL.
   CONDITION ---CD STOP MODE, TAPE MODE(WITHOUT TAPES), TUNER MODE(FM, AM).
   AC/DC SUPPLY, BATT SUPPLY.
   VOL : 9 (INITIAL)
   SOUND : FLAT
   S.BASS(AHB) : ON/OFF

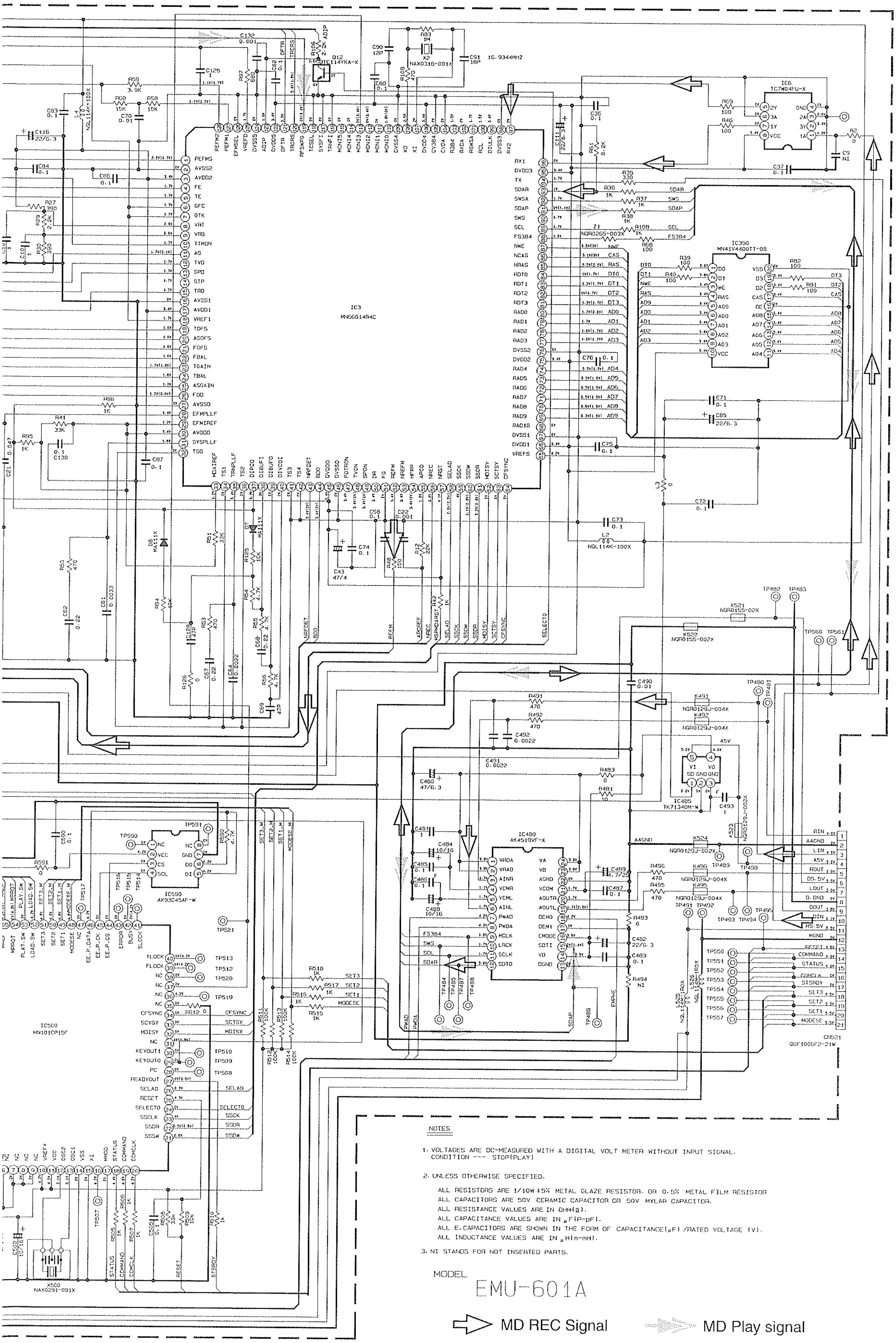
2. UNLESS OTHERWISE SPECIFIED.
   ALL RESISTANCE VALUES ARE IN OHM(Ω).
   ALL CAPACITORS ARE CERAMIC CAPACITOR OR MYLAR CAPACITOR.
   ALL CAPACITANCE VALUES ARE IN μF(P=pF).
   ALL INDUCTANCE VALUES ARE IN μH(m=mH).
   ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μF)/RATED VOLTAGE (V).
   ALL DIODES ARE 1SS133.

   ∿∿ FUSIBLE RESISTOR


LVA10075-A1
REC
P/B
ANALOG +5V
OPTICAL DIGITAL IN AUX
OPTICAL DIGITAL IN XT-UXG6
TO XT-UXG5
CN833
MD REC Signal
MD Play Signal
XM-G6

■MD Servo control section





NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL.
CONDITION --- STOP(PLAY)

2. UNLESS OTHERWISE SPECIFIED.

ALL RESISTORS ARE 1/10W ±5% METAL GLAZE RESISTOR, OR 0.5% METAL FILM RESISTOR
ALL CAPACITORS ARE 50V CERAMIC CAPACITOR OR 50V MYLAR CAPACITOR.
ALL RESISTANCE VALUES ARE IN OHM(Ω).
ALL CAPACITANCE VALUES ARE IN μF(P=pF).
ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μF)/RATED VOLTAGE (V).
ALL INDUCTANCE VALUES ARE IN μH(m=mH).

3. NI STANDS FOR NOT INSERTED PARTS.

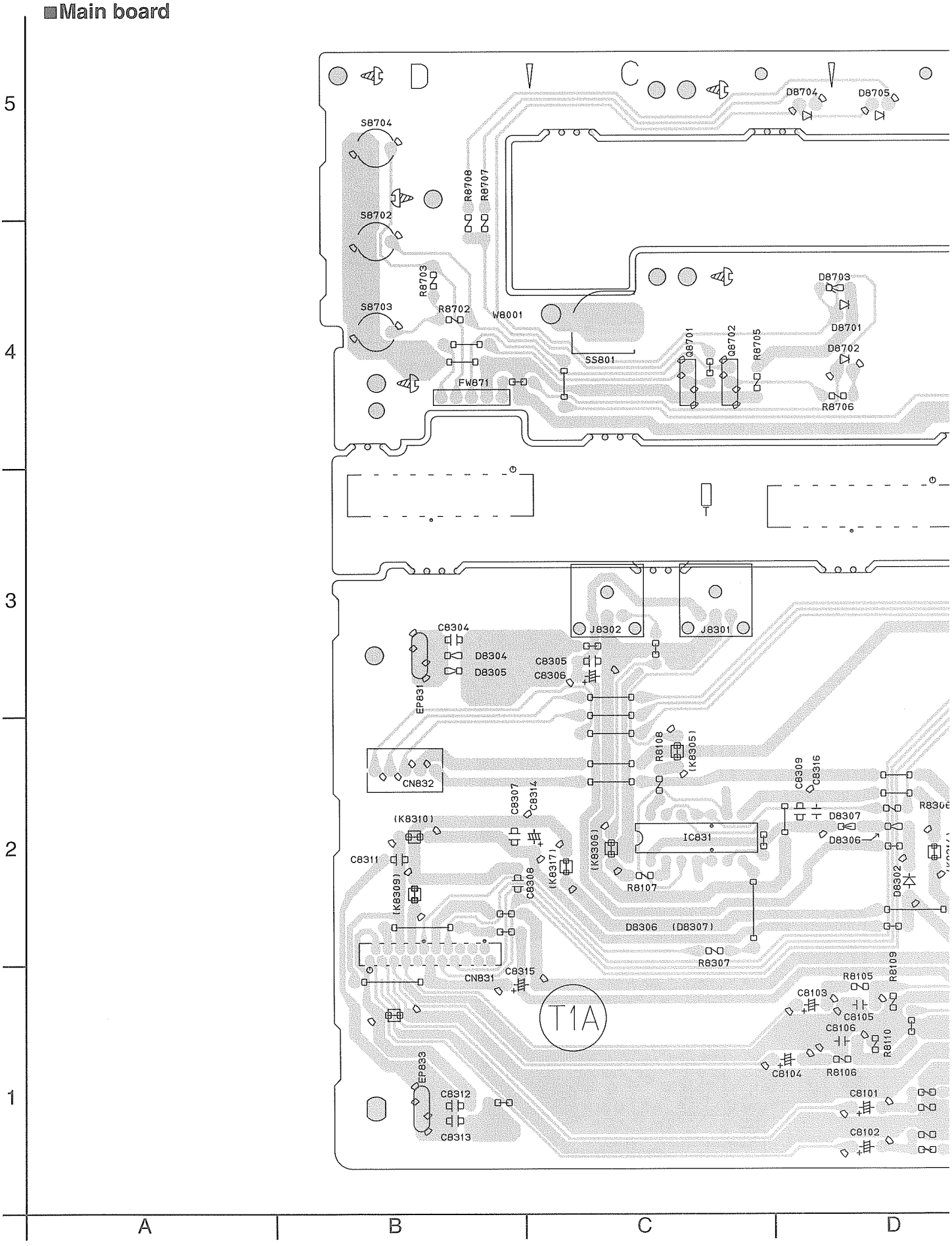
MODEL
EMU-601A

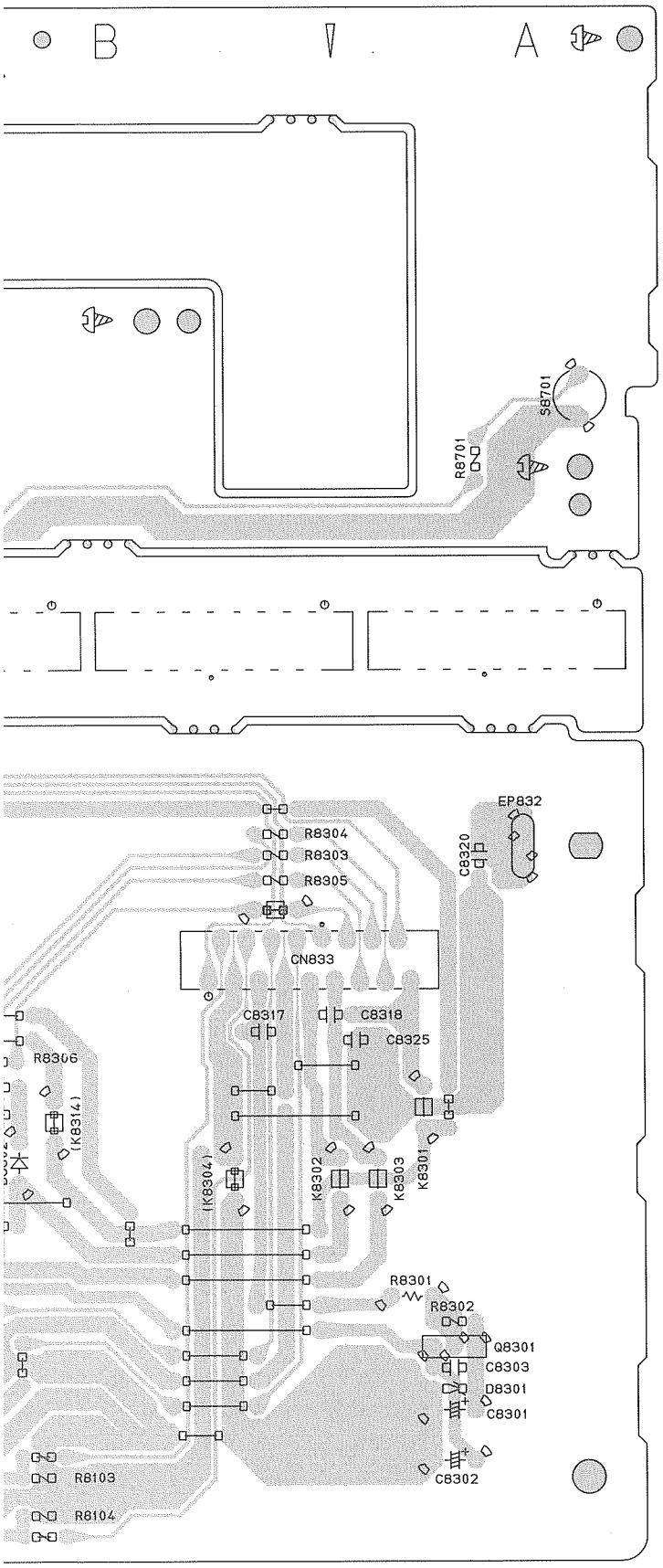
MD REC Signal   MD Play signal

D	E	F	G

Printed circuit boards

■Main board

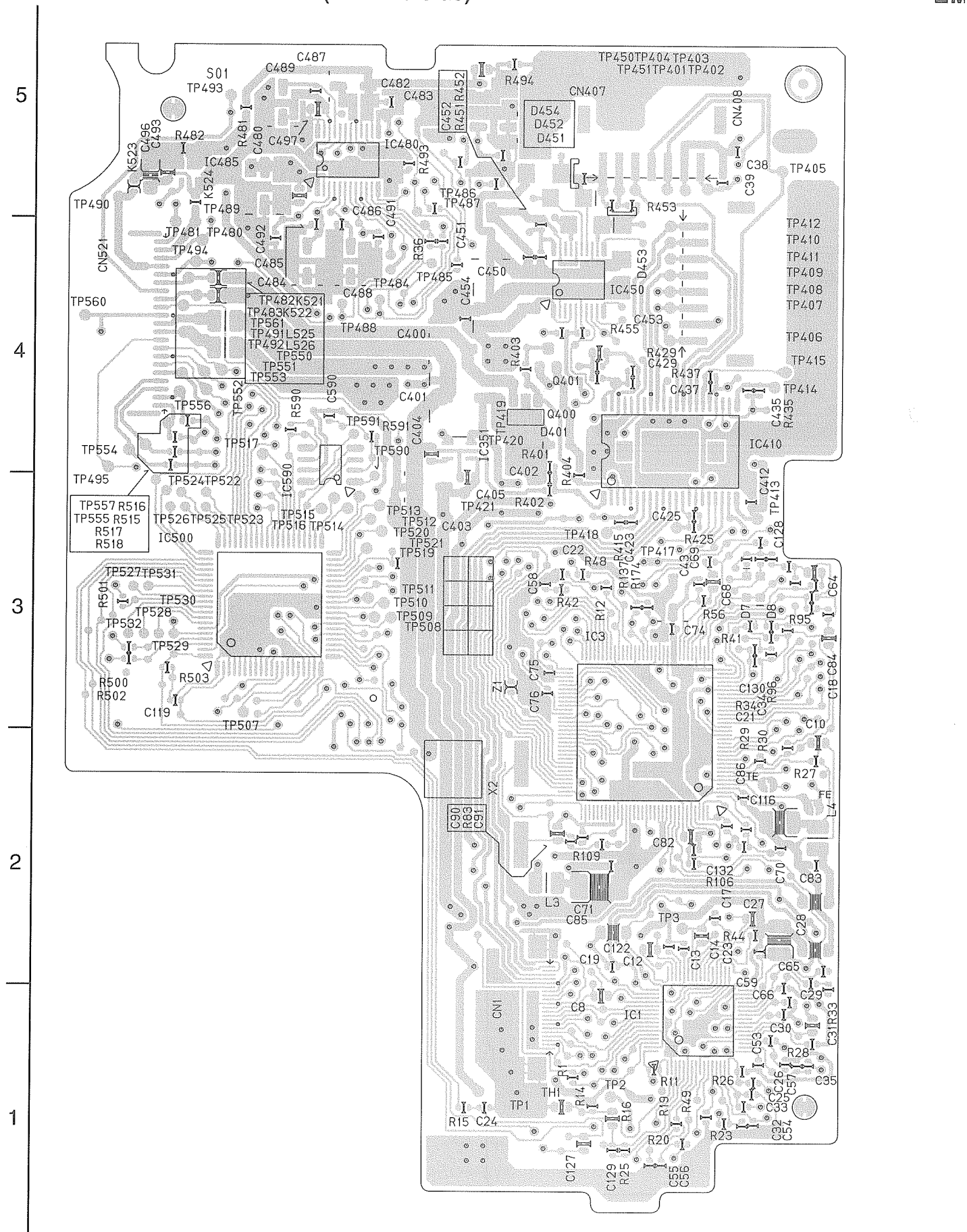



B
A
S8701
R8701
EP832
C8320
R8304
R8303
R8305
CN833
C8317
C8318
C8325
R8306
(K8314)
(K8304)
K8302
K8303
K8301
R8301
R8302
Q8301
C8303
D8301
C8301
C8302
R8103
R8104

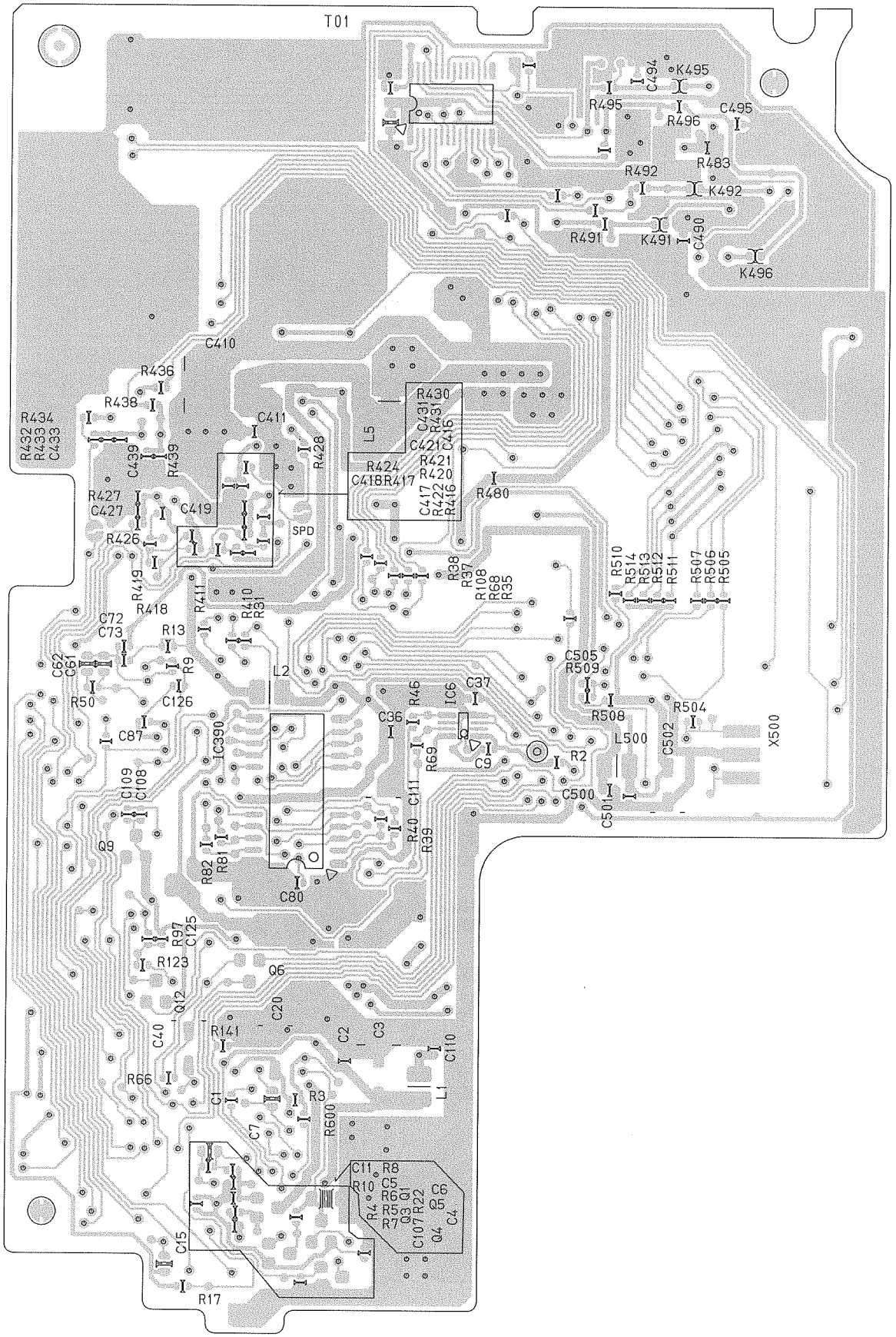
E F G

■MD Servo control board (Forward side)

■M

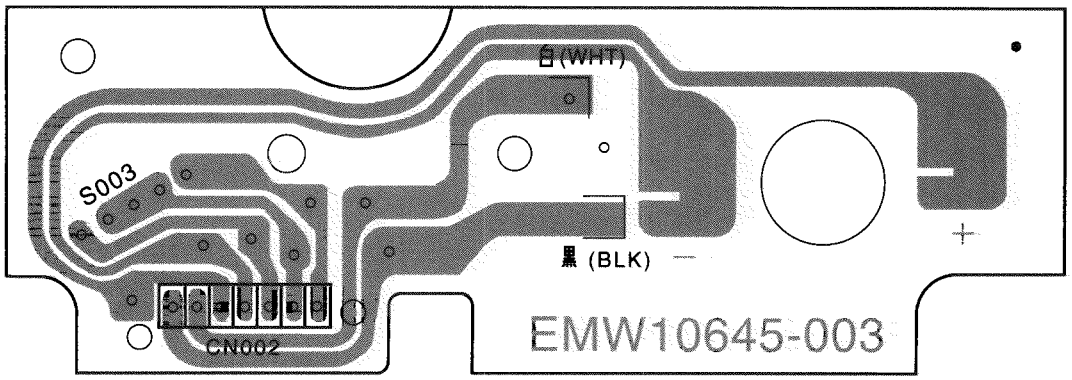


■MD Servo control board (Reverse side)

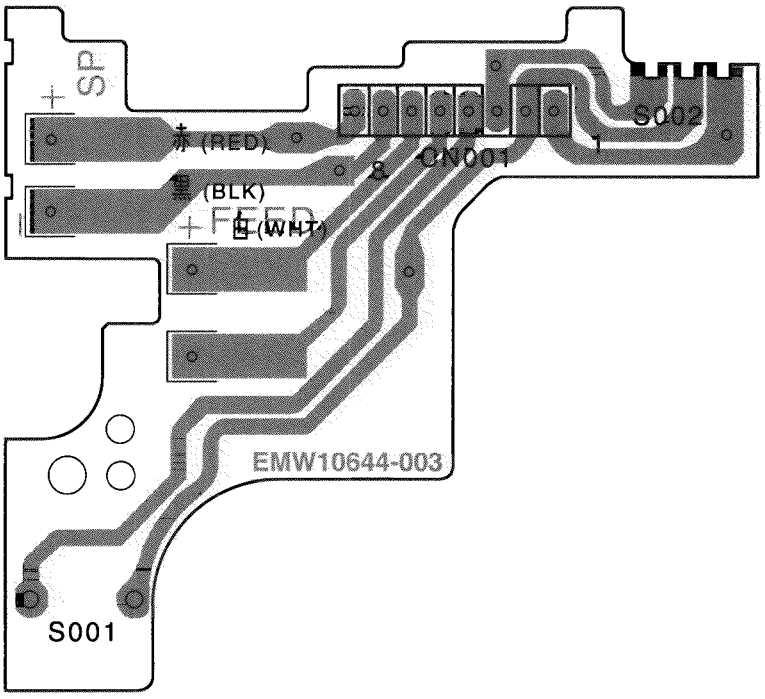


D | E | F | G

■MD Mechanism board



■MD Switch board



<< M E M O >>

PARTS LIST

[XM-G6]

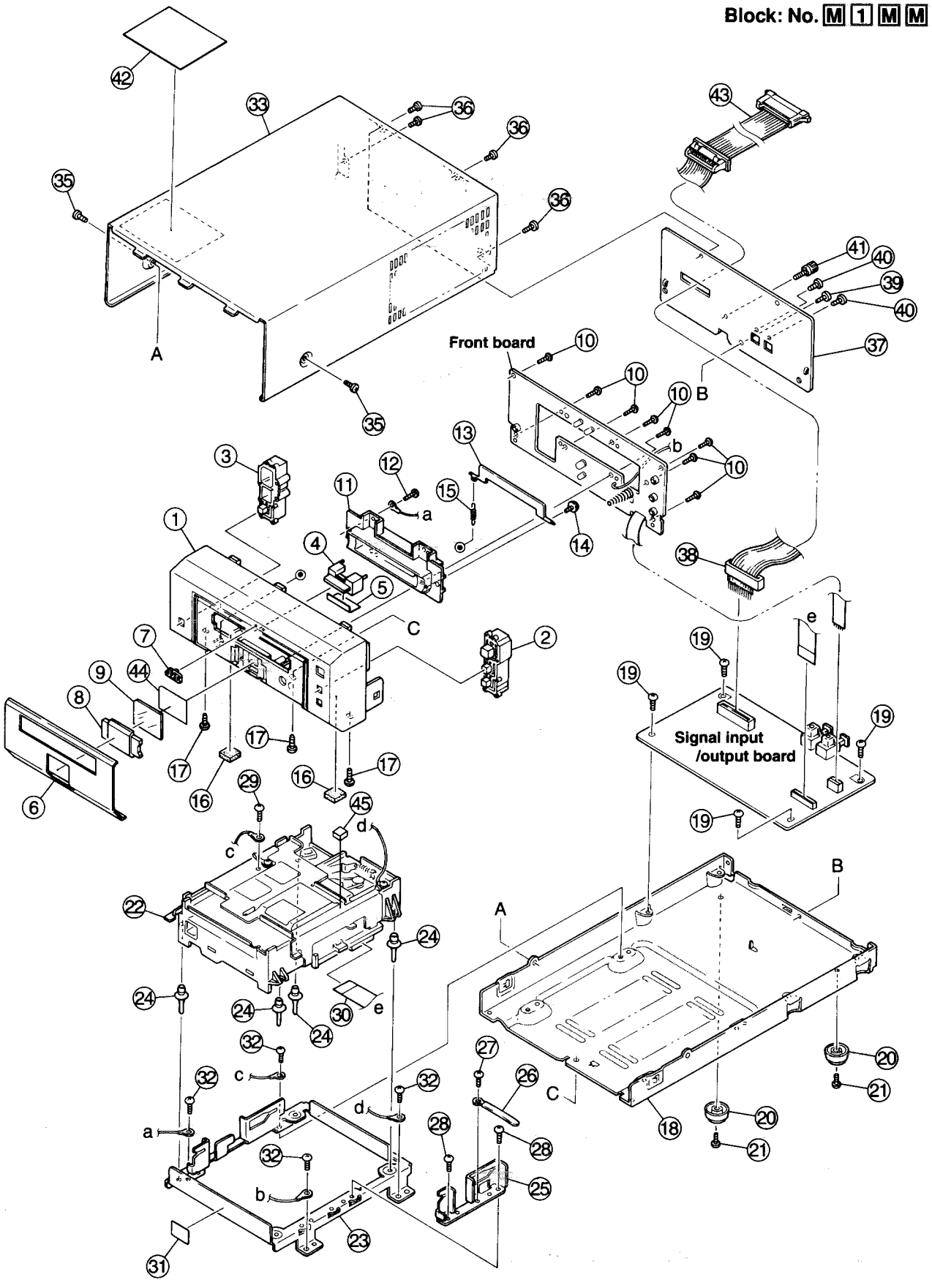
* All printed circuit boards and its assemblies are not available as service parts.

Area Suffix	
UB	Hong Kong
U	Other Areas

- Contents -

Exploded view of general assembly and parts list

Block: No. M 1 M M



■Parts list (General assembly)

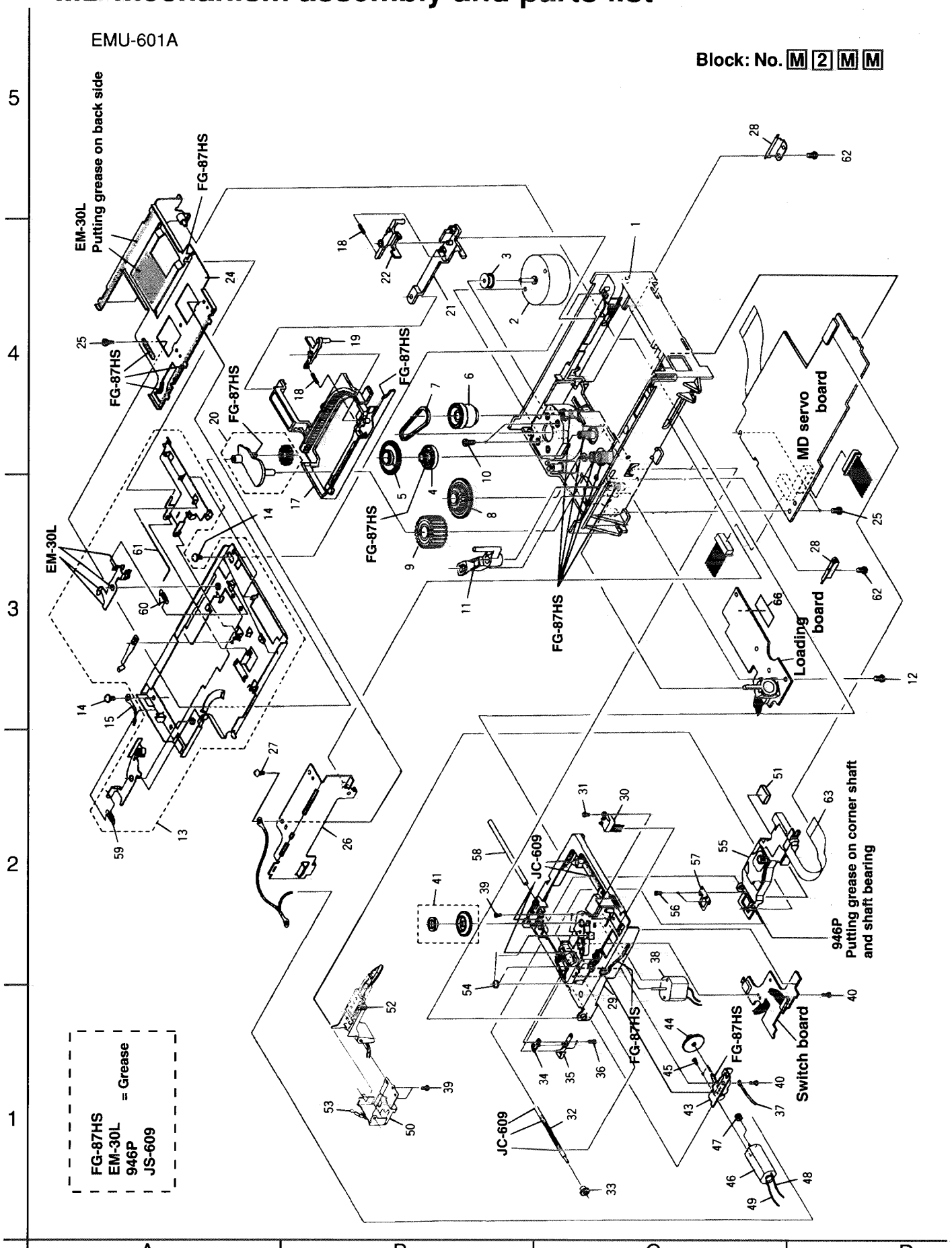
Block No. M1MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	1	LV10279-001A	FRONT PANEL	1		
	2	LV31438-002A	BUTTON	1	PLATING	
	3	LV31440-004A	BUTTON	1	PLATING	
	4	LV41319-001A	INDICATOR	1		
	5	LV30064-056A	SPACER	1		
	6	LV31460-001A	FRONT PLATE	1		
	7	E406971-222	JVC MARK	1		
	8	LV41317-002A	LENS(A)	1		
	9	LV41318-003A	LENS(B)	1		
	10	QYSBSF2608Z	T.SCREW	8	FOR SW PWB	
	11	LV20523-001A	MD ESCUSHION	1	PLATING	
	12	QYSBSF2608Z	T.SCREW	1		
	13	LV30857-003A	MD LID	1		
	14	E72405-001	SPECIAL SCREW	1	SPACER+LID+SPRI	
	15	VKW5318-001	LID SPRING	1		
	16	E75896-002	FELT SPACER	2	FOR FOOT	
	17	QYSBST3006Z	T.SCREW	3	FOR F.PANE+B.CH	
	18	LV10276-001A	BOTTOM CHASSIS	1		
	19	QYSBST3006Z	T.SCREW	4	FOR PWB	
	20	E47227-029	FOOT	2		
	21	QYSBST3006Z	T.SCREW	2	FOR FOOT	
	22	----------	MD MECHA	1		
	23	LV20524-001A	MD MECHA CHASS.	1		
	24	E406294-003	INSULATOR	4		
	25	VKM3884-002	MECHA BRACKET	1		
	26	VKZ4001-007	WIRE CLAMP	1		
	27	QYSBST3006Z	T.SCREW	1		
	28	QYSBST3006Z	T.SCREW	2	BKT+MD CHASSIS	
	29	QYSBST3006Z	T.SCREW	1		
	30	QUQ110-2115AJ	FFC WIRE	1		
	31	LV30064-054A	SPACER	1		
	32	QYSBST3006Z	T.SCREW	4	MD CHASS.+CHASS	
	33	LV10273-002A/S/	METAL COVER	1		
	35	QYSDSG3008N	T.SCREW	2	M.COVER+B.CHASS	
	36	QYSDSG3008N	T.SCREW	4	M.COVER+R.PANEL	
	37	LV20527-015A	REAR PANEL	1		
	38	QQR1086-001	NOISE FILTER	1		
	39	QYSDSG3008N	T.SCREW	1		
	40	QYSDSG3008N	T.SCREW	2	FOR JACK	
	41	E409257-001	GND TERMINAL	1	FOR JACK	
	42	LV41608-002A	MD CAUTION	1		
	43	WJS0017-001A	E-FL/RB WIRE	1	17 PIN SYSTEM W	
	44	LV41773-001A	SHEET	1		
	45	VYSR111-004	SPACER	1		

MD mechanism assembly and parts list

EMU-601A

Block: No. M 2 M M



■Parts list (MD mechanism)

Block No. M2MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	1	E103156-002	LOADING BASE	1		
	2	MSN5G543C	MOTOR	1		
	3	E75984-222SS	MOTOR PULLEY	1		
	4	E409146-001	GEAR(5)	1		
	5	E409143-001	GEAR(2)	1		
	6	E409142-002	GEAR(1)	1		
	7	E75950-002	BELT	1		
	8	E409144-001	GEAR(3)	1		
	9	E409145-001	GEAR(4)	1		
	10	QYSPSPT2640Z	MINI SCREW	2		
	11	E409149-002	SW LEVER	1		
	12	QYSBSF2606M	SCREW	1		
	13	E309825-010	CAR.BASE ASSY	1		
	14	QYSBSFG2606Z	SCREW	3		
	15	EWPZ01-027	TERMINAL WIRE	1		
	17	E208853-001	RACK	1		
	18	E409153-002	SPRING	2		
	19	E409152-002	HOOK(L)	1		
	20	E409195-002	P.GEAR ASSY	1		
	21	E309824-001	LINK	1		
	22	E409154-002	HOOK(R)	1		
	24	E309829-004	S.BKT (R) ASSY	1		
	25	E409163-001	SPECIAL SCREW	3		
	26	E409164-003	S.BKT (L) ASSY	1		
	27	QYSBST2606Z	T.SCREW	1		
	28	LV40591-001A	BRACKET	2		
	29	E103258-001	CHASSIS BAS	1		
	30	QSW0508-001	PUSH SW	1		
	31	QYSPSGT2035M	MINI SCREW	1		
	32	E409553-001	LEAD SCREW	1		
	33	E409542-001	GEAR F.LEAD	1		
	34	E409548-001	TH.PLATE	1		
	35	E409135-001	THRUST SPRING	1		
	36	E409332-001	SPECIAL SCREW	2		
	37	EWT025-008	TERMINAL WIRE	1		
	38	FF-110PH-08280	P.MOTOR	1		
	39	QYSPSPU1720M	MINI SCREW	4		
	40	QYSPST2606Z	SCREW	2		
	41	LE30470-001A	T.TABLE ASSY	1		
	43	E409129-006	M.BKT ASSY	1		
	44	E409133-001	MIDDLE GEAR	1		
	45	QYSPSPU1420Z	MINI SCREW	2		
	46	FF-N30VA-09210	FEED MOTOR	1		
	47	E409550-001	F.M.GEAR	1		
	48	QWE269-06BB	WIRE ASSY	1		
	49	QWE260-05BB	WIRE ASSY	1		
	50	E310179-001	H.JOINT	1		
	51	LE30001-008A	SPACER	1		

■Parts list (MD mechanism)

Block No. M2MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	52	HMD-7C	HEAD UNIT	1		
	53	E409158-004	SPRING	1		
	54	E409165-001	M.SPRING	1		
⚠	55	KMS-260B	MD PICK UNIT	1		
	56	QYSPSPT1414Z	SCREW	2		
	57	E408255-003	RACK SPRING	1		
	58	E409141-001	GUIDE SHAFT	1		
	59	E409158-002	SPRING	1		
	60	E409158-003	SPRING	1		
	61	E409167-001	SPRING BAR	1		
	62	QYSBSF2606M	SCREW	2		
	63	EMW40008-001	FPC CABLE	1		
	66	VYSA1R4-056	SPACER	1		

Electrical parts list

■Main board Block No. 01

⚠	Item	Parts number	Parts name	Remarks	Area
	CN831	QGF1016C1-21	CONNECTOR	21PIN 1.0FFC CO	
	CN832	QGD2501C1-05Z	SOCKET		
	CN833	QGD1501C1-17	SOCKET ASSY	15P 1.25P FFC	
	C8101	QTE1E28-106Z	E CAPACITOR		
	C8102	QTE1E28-106Z	E CAPACITOR		
	C8103	QTE1E28-106Z	E CAPACITOR		
	C8104	QTE1E28-106Z	E CAPACITOR		
	C8105	QFN31HJ-332Z	M CAPACITOR	3300PF 5% 50V	
	C8106	QFN31HJ-332Z	M CAPACITOR	3300PF 5% 50V	
	C8301	QETC1CM-476Z-JB	E CAPACITOR	47MF 20% 16V	
	C8302	QETC1AM-477Z	E CAPACITOR	470MF 20% 10V	
	C8303	QDYB1CM-103Y	C CAPACITOR		
	C8304	QDVB1EZ-223Y	C CAPACITOR		
	C8305	QDVB1EZ-223Y	C CAPACITOR		
	C8306	QETC1AM-107Z-JB	E CAPACITOR	100MF 20% 10V	
	C8307	QDVB1EZ-223Y	C CAPACITOR		
	C8308	QDYB1CM-103Y	C CAPACITOR		
	C8309	QDVB1EZ-223Y	C CAPACITOR		
	C8312	QDGB1HK-102Y	C CAPACITOR		
	C8313	QDGB1HK-102Y	C CAPACITOR		
	C8314	QETC1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C8315	QETL0JM-228	E CAPACITOR	2200MF 20% 6.3V	
	C8316	QCZ0202-155Z	ML C CAPACITOR	1.5MF	
	C8317	QDGB1HK-102Y	C CAPACITOR		
	C8318	QDGB1HK-102Y	C CAPACITOR		
	C8320	QDGB1HK-102Y	C CAPACITOR		
	C8325	QDGB1HK-102Y	C CAPACITOR		
	C8330	QCS31HJ-331Z	C CAPACITOR	330PF 5% 50V	
	C8331	QFVJ1HJ-104Z	TF CAPACITOR	.10MF 5% 50V	
	D8301	MTZJ5.6C-T2	ZENER DIODE		
	D8302	11E2-T5	DIODE		
	D8304	1SS133-T2	SI DIODE		
	D8305	1SS133-T2	SI DIODE		
	D8306	1SS133-T2	SI DIODE		
	D8701	SELU1E10CXM	LED	BLUE LED	
	D8702	SLR-342VC-T	LED	REC LED	
	D8703	MTZJ5.6C-T2	ZENER DIODE		
	D8704	SLR-342DC-T	LED	MD IN LED	
	D8705	SLR-342DC-T	LED		
	EP831	QNZ0136-001Z	EARTH PLATE		
	EP832	QNZ0136-001Z	EARTH PLATE		
	EP833	QNZ0136-001Z	EARTH PLATE		
	FW871	QUM025-30DGZ4	PARA RIBON WIRE		
	IC831	TC74HC00AP	IC	SELECTOR	
	J8301	GP1F32R	OPTICAL JACK	OPT-IN1	
	J8302	GP1F32R	OPTICAL JACK	OPT-IN2	
	K8301	QQR0601-001Z	F.BEADS		
	K8302	QQR0601-001Z	F.BEADS		
	K8303	QQR0601-001Z	F.BEADS		
	Q8301	2SC1815/GL/-T	TRANSISTOR		
	Q8701	KRC107M-T	D.TRANSISTOR	MD IN LED	
	Q8702	KRC107M-T	D.TRANSISTOR	REC LED	
	R8105	QRE141J-202Y	C RESISTOR	2.0K 5% 1/4W	
	R8106	QRE141J-202Y	C RESISTOR	2.0K 5% 1/4W	
	R8107	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R8108	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R8109	QRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R8110	QRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R8301	QRZ9006-4R7X	F RESISTOR	4.7 1/0W	
	R8302	QRE141J-122Y	C RESISTOR	1.2K 5% 1/4W	
	R8303	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R8304	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R8305	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R8306	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R8307	QRE141J-331Y	C RESISTOR	330 5% 1/4W	
	R8701	QRE141J-223Y	C RESISTOR	22K 5% 1/4W	
	R8702	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	

⚠	Item	Parts number	Parts name	Remarks	Area
	R8703	QRE141J-332Y	C RESISTOR	3.3K 5% 1/4W	
	R8705	QRE141J-181Y	C RESISTOR	180 5% 1/4W	
	R8706	QRE141J-221Y	C RESISTOR	220 5% 1/4W	
	R8707	QRE141J-221Y	C RESISTOR	220 5% 1/4W	
	R8708	QRE141J-221Y	C RESISTOR	220 5% 1/4W	
	SS801	LV41684-001A	SPRING		
	S8701	QSW0674-001Z	TACT SWITCH	PLAY	
	S8702	QSW0674-001Z	TACT SWITCH	EJECT	
	S8703	QSW0674-001Z	TACT SWITCH	STOP	
	S8704	QSW0674-001Z	TACT SWITCH	REC PAUSE	

■MD servo board Block No. 02

⚠	Item	Parts number	Parts name	Remarks	Area
	C 2	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 3	NEA70JM-476X	E CAPACITOR	47MF 20% 6.3V	
	C 4	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 5	NCB31HK-332X	C CAPACITOR	3300PF 10% 50V	
	C 6	NCF11CZ-105X	C CAPACITOR	1.0MF +80:-20%	
	C 7	NCB21CK-224X	C CAPACITOR	.22MF 10% 16V	
	C 8	NCB21CK-224X	C CAPACITOR	.22MF 10% 16V	
	C 10	NCF21CZ-105X	C CAPACITOR	1.0MF +80:-20%	
	C 11	NCB21EK-223X	C CAPACITOR	.022MF 10% 25V	
	C 12	NCB21CK-474X	C CAPACITOR	.47MF 10% 16V	
	C 13	NCB31CK-104X	C CAPACITOR	.10MF 10% 16V	
	C 14	NCB21CK-474X	C CAPACITOR	.47MF 10% 16V	
	C 15	NCB21CK-104X	C CAPACITOR	.10MF 10% 16V	
	C 17	NCB31CK-333X	C CAPACITOR	.033MF 10% 16V	
	C 18	NCF21CZ-105X	C CAPACITOR	1.0MF +80:-20%	
	C 19	NCB31CK-104X	C CAPACITOR	.10MF 10% 16V	
	C 20	NEA71CM-106X	E CAPACITOR	10MF 20% 16V	
	C 21	NCB31CK-473X	C CAPACITOR	.047MF 10% 16V	
	C 22	NCB31HK-102X	C CAPACITOR	1000PF 10% 50V	
	C 23	NCB31CK-104X	C CAPACITOR	.10MF 10% 16V	
	C 24	NCB31HK-102X	C CAPACITOR	1000PF 10% 50V	
	C 25	NCB31CK-333X	C CAPACITOR	.033MF 10% 16V	
	C 26	NCB31CK-104X	C CAPACITOR	.10MF 10% 16V	
	C 27	NCB21CK-154X	C CAPACITOR	.15MF 10% 16V	
	C 28	NBE40GM-476X	TS E CAPACITOR		
	C 29	NCB31CK-823X	C CAPACITOR	.082MF 10% 16V	
	C 30	NCB31HK-472X	C CAPACITOR	4700PF 10% 50V	
	C 31	NCB21CK-474X	C CAPACITOR	.47MF 10% 16V	
	C 32	NCB31CK-333X	C CAPACITOR	.033MF 10% 16V	
	C 33	NCB31CK-104X	C CAPACITOR	.10MF 10% 16V	
	C 34	NCF31CZ-474X	C CAPACITOR	.47MF +80:-20%	
	C 35	NCB31EK-223X	C CAPACITOR	.022MF 10% 25V	
	C 36	NCB31CK-104X	C CAPACITOR	.10MF 10% 16V	
	C 37	NCB31CK-104X	C CAPACITOR	.10MF 10% 16V	
	C 40	NEA71CM-106X	E CAPACITOR	10MF 20% 16V	
	C 43	NEA70GM-476X	E CAPACITOR	47MF 20%	
	C 53	NCB31HK-272X	C CAPACITOR	2700PF 10% 50V	
	C 54	NCB31HK-332X	C CAPACITOR	3300PF 10% 50V	
	C 55	NCB31CK-104X	C CAPACITOR	.10MF 10% 16V	
	C 56	NCB31EK-223X	C CAPACITOR	.022MF 10% 25V	
	C 57	NCB31CK-104X	C CAPACITOR	.10MF 10% 16V	
	C 58	NCB31CK-104X	C CAPACITOR	.10MF 10% 16V	
	C 59	NCB31HK-332X	C CAPACITOR	3300PF 10% 50V	
	C 61	NCB21HK-332X	C CAPACITOR	3300PF 10% 50V	
	C 62	NCB21CK-224X	C CAPACITOR	.22MF 10% 16V	
	C 64	NCB31HK-222X	C CAPACITOR	2200PF 10% 50V	
	C 65	NCB31CK-104X	C CAPACITOR	.10MF 10% 16V	
	C 66	NCB31HK-222X	C CAPACITOR	2200PF 10% 50V	
	C 67	NCB21CK-224X	C CAPACITOR	.22MF 10% 16V	
	C 68	NCB21CK-224X	C CAPACITOR	.22MF 10% 16V	
	C 69	NCS31HJ-470X	C CAPACITOR	47PF 5% 50V	
	C 70	NCB31HK-103X	C CAPACITOR	.010MF 10% 50V	
	C 71	NCF31EZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 72	NCF31EZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 73	NCF31EZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 74	NCF31EZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 75	NCF31EZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 76	NCF31EZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 80	NCF31EZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 82	NCF21EZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 83	NCF31EZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 84	NCF31EZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 85	NBE50JM-226X	TA E CAPACITOR		
	C 86	NCF31EZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 87	NCF31EZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 90	NCS21HJ-120X	C CAPACITOR	12PF 5% 50V	
	C 91	NCS31HJ-180X	C CAPACITOR	18PF 5% 50V	

⚠	Item	Parts number	Parts name	Remarks	Area
	C 107	NCB31HK-332X	C CAPACITOR	3300PF 10% 50V	
	C 108	NCS31HJ-101X	C CAPACITOR	100PF 5% 50V	
	C 109	NCB31HK-472X	C CAPACITOR	4700PF 10% 50V	
	C 110	NCB31CK-104X	C CAPACITOR	.10MF 10% 16V	
	C 111	NEA70JM-226X	E CAPACITOR	22MF 20% 6.3V	
	C 116	NBE40JM-226X	TA E CAPACITOR		
	C 119	NCB31HK-102X	C CAPACITOR	1000PF 10% 50V	
	C 122	NCB11CK-105X	C CAPACITOR	1.0MF 10% 16V	
	C 125	NCB30JK-105X	C CAPACITOR	1.0MF 10% 6.3V	
	C 127	NCB21CK-154X	C CAPACITOR	.15MF 10% 16V	
	C 128	NCS31HJ-470X	C CAPACITOR	47PF 5% 50V	
	C 129	NCS31HJ-101X	C CAPACITOR	100PF 5% 50V	
	C 130	NCF31EZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 132	NCB31HK-102X	C CAPACITOR	1000PF 10% 50V	
	C 400	NEA70JM-226X	E CAPACITOR	22MF 20% 6.3V	
	C 401	NEA70JM-107X	E CAPACITOR.	100MF 20% 6.3V	
	C 402	NCB31HK-331X	C CAPACITOR	330PF 10% 50V	
	C 403	NEA70GM-476X	E CAPACITOR	47MF 20%	
	C 404	NCF21EZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 405	NCB21CK-473X	C CAPACITOR	.047MF 10% 16V	
	C 410	NEA70JM-107X	E CAPACITOR	100MF 20% 6.3V	
	C 411	NCF31AZ-105X	C CAPACITOR	1.0MF +80:-20%	
	C 412	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 417	NCB31HK-561X	C CAPACITOR	560PF 10% 50V	
	C 437	NCB31CK-103X	C CAPACITOR	.010MF 10% 16V	
	C 439	NCB31CK-103X	C CAPACITOR	.010MF 10% 16V	
	C 450	NEA70JM-107X	E CAPACITOR	100MF 20% 6.3V	
	C 451	NEA70GM-107X	E CAPACITOR	100MF 20%	
	C 452	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 453	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 455	NDC32AJ-101X	C CAPACITOR		
	C 480	NEA70JM-476X	E CAPACITOR	47MF 20% 6.3V	
	C 481	NCF21CZ-105X	C CAPACITOR	1.0MF +80:-20%	
	C 482	NEA70JM-226X	E CAPACITOR	22MF 20% 6.3V	
	C 483	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 484	NEA71CM-106X	E CAPACITOR	10MF 20% 16V	
	C 485	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 486	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 487	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 488	NEA71CM-106X	E CAPACITOR	10MF 20% 16V	
	C 489	NEA71EM-475X	E CAPACITOR	4.7MF 20% 25V	
	C 490	NCB31CK-103X	C CAPACITOR	.010MF 10% 16V	
	C 491	NCB31HK-222X	C CAPACITOR	2200PF 10% 50V	
	C 492	NCB31HK-222X	C CAPACITOR	2200PF 10% 50V	
	C 493	NCF21CZ-105X	C CAPACITOR	1.0MF +80:-20%	
	C 500	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 501	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 502	NEA71CM-106X	E CAPACITOR	10MF 20% 16V	
	C 505	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	C 590	NCF31CZ-104X	C CAPACITOR	.10MF +80:-20%	
	CN 1	QGF0501F2-21X	CONNECTOR		
	CN407	QGA2001F2-07X	SOCKET		
	CN408	QGA2001F2-08X	SOCKET		
	CN521	QGF1006F2-21W	SOCKET		
	D 7	MA111X	DIODE		
	D 8	MA111X	DIODE		
	D 451	SC802-06-X	DIODE		
	D 452	SC802-06-X	DIODE		
	IC 1	AN8771NFH	IC		
	IC 3	MN66614R4C	IC		
	IC 6	TC7W04FU-X	IC(DIGITAL)		
	IC351	TK11335BMC-X	IC		
	IC390	MN41V4400TT-08	IC		
	IC410	M63008FP-X	IC		
	IC450	BD7910FV-X	IC M.HEAD DRIVE		
	IC480	AK4519VF-X	IC A/D.D/A CONV		
	IC485	TK71340M-W	IC 4.0V REG		

■MD servo board Block No. 02

⚠	Item	Parts number	Parts name	Remarks	Area
	IC500	MN101C15FBT1	IC		
	IC590	AK93C45AF-W	IC		
	K 491	NQR0129-004X	FERRITE BEADS		
	K 492	NQR0129-004X	FERRITE BEADS		
	K 495	NQR0129-004X	FERRITE BEADS		
	K 496	NQR0129-004X	FERRITE BEADS		
	K 521	NQR0155-002X	INDUCTOR		
	K 522	NQR0155-002X	INDUCTOR		
	K 523	NQR0129-002X	FERRITE BEADS		
	K 524	NRSA63J-0R0X	MG RESISTOR	5%	
	L 1	NQL114K-100X	INDUCTOR		
	L 2	NQL114K-100X	INDUCTOR		
	L 3	NRS181J-0R0X	MG RESISTOR	5% 1/8W	
	L 4	NQL114K-100X	INDUCTOR		
	L 500	NQL114K-100X	INDUCTOR		
	L 525	NQL114M-1R0X	INDUCTOR		
	L 526	NQL114M-1R0X	INDUCTOR		
	Q 1	2SA1362/G/-X	TRANSISTOR		
	Q 3	DTA113ZKA-X	TRANSISTOR		
	Q 4	DTC114YKA-X	D.TRANSISTOR		
	Q 5	DTA113ZKA-X	D.TRANSISTOR		
	Q 6	DTC114EKA-X	D.TRANSISTOR		
	Q 9	DTC114YKA-X	D.TRANSISTOR		
	Q 12	DTC114YKA-X	D.TRANSISTOR		
	Q 400	2SA1363/EF/-X	CHIP TR.C.M		
	R 1	NRSA63J-472X	MG RESISTOR	4.7K 5%	
	R 2	NRSA63J-0R0X	MG RESISTOR	5%	
	R 3	NRSA63J-0R0X	MG RESISTOR	5%	
	R 5	NRSA63J-4R7X	MG RESISTOR	4.7 5%	
	R 6	NRSA63J-104X	MG RESISTOR	100K 5%	
	R 7	NRSA63J-0R0X	MG RESISTOR	5%	
	R 8	NRSA63J-471X	MG RESISTOR	470 5%	
	R 10	NRSA63J-474X	MG RESISTOR	470K 5%	
	R 11	NRSA63J-222X	MG RESISTOR	2.2K 5%	
	R 12	NRSA63J-223X	MG RESISTOR	22K 5%	
	R 14	NRSA63J-103X	MG RESISTOR	10K 5%	
	R 15	NRSA63J-223X	MG RESISTOR	22K 5%	
	R 16	NRSA02J-104X	MG RESISTOR	100K 5% 1/10W	
	R 17	NRSA63J-473X	MG RESISTOR	47K 5%	
	R 18	NRSA63J-103X	MG RESISTOR	10K 5%	
	R 19	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 20	NRSA63J-393X	MG RESISTOR	39K 5%	
	R 22	NRSA63J-270X	MG RESISTOR	27 5%	
	R 23	NRSA63J-153X	MG RESISTOR	15K 5%	
	R 24	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 25	NRSA63J-104X	MG RESISTOR	100K 5%	
	R 26	NRSA63J-103X	MG RESISTOR	10K 5%	
	R 27	NRSA63J-391X	MG RESISTOR	390 5%	
	R 28	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 29	NRSA63J-222X	MG RESISTOR	2.2K 5%	
	R 30	NRSA63J-391X	MG RESISTOR	390 5%	
	R 32	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 33	NRSA63J-223X	MG RESISTOR	22K 5%	
	R 34	NRSA63J-471X	MG RESISTOR	470 5%	
	R 35	NRSA63J-331X	MG RESISTOR	330 5%	
	R 36	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 37	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 38	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 39	NRSA63J-101X	MG RESISTOR	100 5%	
	R 40	NRSA63J-101X	MG RESISTOR	100 5%	
	R 41	NRSA63J-333X	MG RESISTOR	33K 5%	
	R 42	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 44	NRSA63J-103X	MG RESISTOR	10K 5%	
	R 46	NRSA63J-101X	MG RESISTOR	100 5%	
	R 48	NRSA63J-101X	MG RESISTOR	100 5%	
	R 49	NRSA63J-153X	MG RESISTOR	15K 5%	
	R 50	NRSA63J-471X	MG RESISTOR	470 5%	

⚠	Item	Parts number	Parts name	Remarks	Area
	R 51	NRSA63J-333X	MG RESISTOR	33K 5%	
	R 53	NRSA63J-471X	MG RESISTOR	470 5%	
	R 54	NRSA63J-472X	MG RESISTOR	4.7K 5%	
	R 55	NRSA63J-472X	MG RESISTOR	4.7K 5%	
	R 56	NRSA63J-472X	MG RESISTOR	4.7K 5%	
	R 58	NRSA63J-153X	MG RESISTOR	15K 5%	
	R 59	NRSA63J-392X	MG RESISTOR	3.9K 5%	
	R 60	NRSA63J-153X	MG RESISTOR	15K 5%	
	R 61	NRSA63J-822X	MG RESISTOR	8.2K 5%	
	R 62	NRS181J-0R0X	MG RESISTOR	5% 1/8W	
	R 63	NRS181J-0R0X	MG RESISTOR	5% 1/8W	
	R 66	NRSA63J-104X	MG RESISTOR	100K 5%	
	R 68	NRSA63J-101X	MG RESISTOR	100 5%	
	R 69	NRSA63J-101X	MG RESISTOR	100 5%	
	R 81	NRSA63J-101X	MG RESISTOR	100 5%	
	R 82	NRSA63J-101X	MG RESISTOR	100 5%	
	R 83	NRSA63J-105X	MG RESISTOR	1.0M 5%	
	R 94	NRSA63J-103X	MG RESISTOR	10K 5%	
	R 95	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 96	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 97	NRSA63J-681X	MG RESISTOR	680 5%	
	R 106	NRSA63J-222X	MG RESISTOR	2.2K 5%	
	R 108	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 109	NRSA63J-471X	MG RESISTOR	470 5%	
	R 123	NRSA63J-681X	MG RESISTOR	680 5%	
	R 125	NRSA63J-103X	MG RESISTOR	10K 5%	
	R 126	NRSA63J-0R0X	MG RESISTOR	5%	
	R 141	NRSA63J-103X	MG RESISTOR	10K 5%	
	R 401	NRVA63D-123X	MG RESISTOR	12K	
	R 402	NRVA63D-512X	MG RESISTOR	5.1K	
	R 415	NRSA63J-243X	MG RESISTOR	24K 5%	
	R 417	NRSA63J-273X	MG RESISTOR	27K 5%	
	R 421	NRSA63J-0R0X	MG RESISTOR	5%	
	R 422	NRVA63D-513X	C.M.F.RESISTOR	51K	
	R 424	NRVA63D-273X	C.M.F.RESISTOR	27K	
	R 425	NRVA63D-243X	C.M.F.RESISTOR	24K	
	R 427	NRSA63J-0R0X	MG RESISTOR	5%	
	R 428	NRVA63D-393X	C.M.F.RESISTOR	39K	
	R 429	NRVA63D-273X	C.M.F.RESISTOR	27K	
	R 431	NRSA63J-0R0X	MG REGISTOR	5%	
	R 433	NRSA63J-0R0X	MG REGISTOR	5%	
	R 434	NRVA63D-333X	C.M.F.RESISTOR	33K	
	R 435	NRVA63D-153X	C.M.F.RESISTOR	15K	
	R 436	NRSA63J-223X	MG REGISTOR	22K 5%	
	R 437	NRSA63J-302X	MG RESISTOR	3.0K 5%	
	R 438	NRSA63J-223X	MG REGISTOR	22K 5%	
	R 439	NRSA63J-302X	MG RESISTOR	3.0K 5%	
	R 451	NRSA63J-103X	MG RESISTOR	10K 5%	
	R 452	NRSA63J-682X	MG RESISTOR	6.8K 5%	
	R 453	NRSA63J-1R0X	MG RESISTOR	1.0 5%	
	R 454	NRSA63J-1R0X	MG RESISTOR	1.0 5%	
	R 455	NRSA63J-223X	MG RESISTOR	22K 5%	
	R 481	NRSA63J-100X	MG RESISTOR	10 5%	
	R 483	NRSA63J-0R0X	MG RESISTOR	5%	
	R 491	NRSA63J-471X	MG RESISTOR	470 5%	
	R 492	NRSA63J-471X	MG RESISTOR	470 5%	
	R 493	NRSA63J-0R0X	MG RESISTOR	5%	
	R 495	NRSA63J-471X	MG RESISTOR	470 5%	
	R 496	NRSA63J-471X	MG RESISTOR	470 5%	
	R 500	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 501	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 502	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 503	NRSA63J-223X	MG RESISTOR	22K 5%	
	R 505	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 506	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 507	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 508	NRSA63J-333X	MG RESISTOR	33K 5%	

■MD servo board Block No. 02

⚠	Item	Parts number	Parts name	Remarks	Area
	R 509	NRSA63J-103X	MG RESISTOR	10K 5%	
	R 510	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 511	NRSA63J-104X	MG RESISTOR	100K 5%	
	R 512	NRSA63J-104X	MG RESISTOR	100K 5%	
	R 513	NRSA63J-104X	MG RESISTOR	100K 5%	
	R 514	NRSA63J-104X	MG RESISTOR	100K 5%	
	R 515	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 516	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 517	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 518	NRSA63J-102X	MG RESISTOR	1.0K 5%	
	R 590	NRSA63J-472X	MG RESISTOR	4.7K 5%	
	R 591	NRSA63J-0R0X	MG RESISTOR	5%	
	R 600	NRSA63J-822X	MG RESISTOR	8.2K 5%	
	R 612	NRSA63J-0R0X	MG RESISTOR	5%	
	TH 1	NAD0006-103X	THERMISTOR		
	X 2	NAX0316-001X	CRYSTAL		
	X 500	NAX0291-001X	C OSCILLATOR		
	Z 1	NQR0265-003X	FERRITE BEADS		

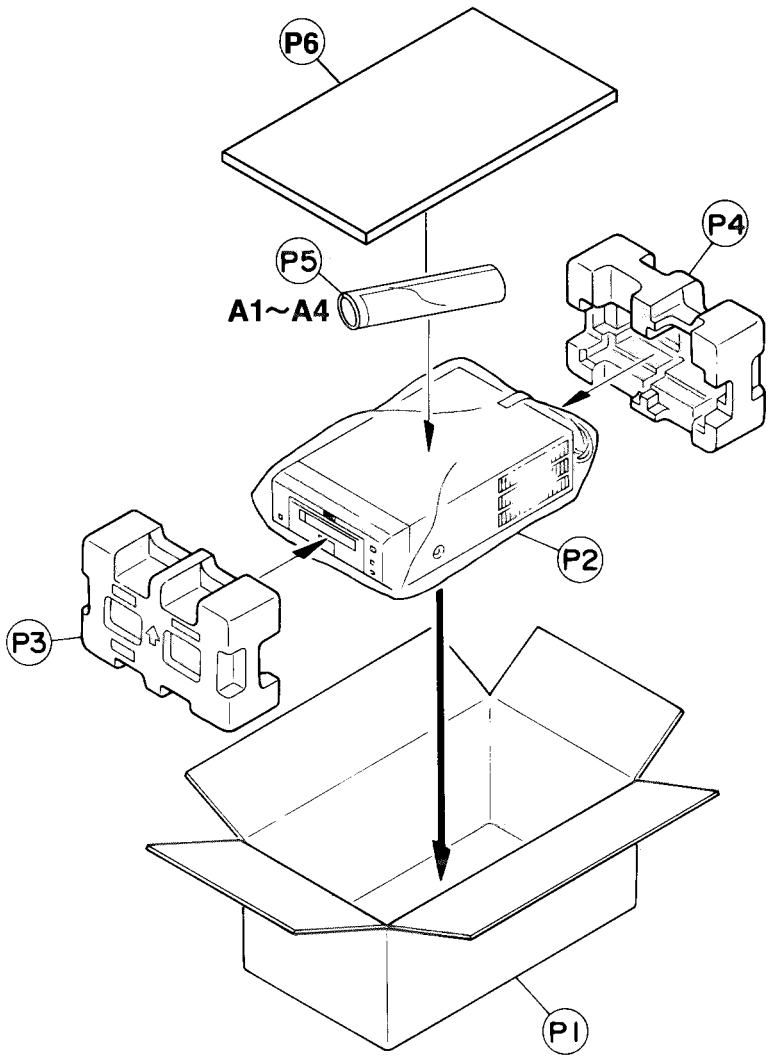
■MD loading board Block No. 03

⚠	Item	Parts number	Parts name	Remarks	Area
	S003	QSW0472-001	SWITCH		
	CN002	EWS267-F908J	SKT WIRE		

■MD switch board Block No. 04

⚠	Item	Parts number	Parts name	Remarks	Area
	S001	QSW0104-001	PUSH SWITCH		
	CN001	EWS268-F911	SKT WIRE		

Packing materials and accessories parts list



Block: No. M 3 M M

Block: No. M 4 M M

■Accessories list

Block No. M3MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	P 1	LV31464-005A	PACKING CASE	1		
	P 2	QPC03506015P	ENVELOPE	1		
	P 3	LV20535-001A	PACKING PAD	1	FRONT	
	P 4	LV20535-002A	PACKING PAD	1	REAR	
	P 5	QPC02503510P	POLY BAG	1		
	P 6	LV32052-001A	SHEET	1		

■Packing parts list

Block No. M4MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	A 1	LVT0378-006A	INST BOOK	1	ENG,CHI,SPA	
	A 2	LV41729-001A	GND WIRE	1		
	A 3	QAM0006-001	OPTICAL CORD	1		
	A 4	LV32016-001A	UB SHEET	1		UB

XM-G6

JVC

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(No.20809)

Printed in Japan
2000 02(M)